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SEARCH REQUEST FORM

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Art Unit: 1655 Phone Number 30 Serial Number: 10/730,070

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PTO-1590 (8-01)

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=> fil medline
FILE 'MEDLINE' ENTERED AT 15:01:50 ON 11 MAY 2006

 FILE LAST UPDATED: 10 MAY 2006 (20060510/UP). FILE COVERS 1950 TO DATE.

 On December 11, 2005, the 2006 MeSH terms were loaded.

 The MEDLINE reload for 2006 is now (26 Feb.) available. For details
 on the 2006 reload, enter HELP RLOAD at an arrow prompt (=>).
 See also:

    http://www.nlm.nih.gov/mesh/
    http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html
    http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.html
    http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html

 OLDMEDLINE is covered back to 1950.

 MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the
 MeSH 2006 vocabulary.

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> d all tot

L29  ANSWER 1 OF 13     MEDLINE on STN
AN   97452104      MEDLINE
DN   PubMed ID: 9306875
TI   Synovial fluid concentrations of the C-propeptide of type II
     collagen correlate with body mass index in primary knee
     osteoarthritis.
AU   Kobayashi T; Yoshihara Y; Samura A; Yamada H; Shinmei M; Roos H; Lohmander
     L S
CS   Department of Orthopaedic Surgery, National Defence Medical College,
     Tokorozawa, Japan.
SO   Annals of the rheumatic diseases, (1997 Aug) Vol. 56, No. 8, pp.
     500-3.
     Journal code: 0372355. ISSN: 0003-4967.
CY   ENGLAND: United Kingdom
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Priority Journals
EM   199710
ED   Entered STN: 24 Oct 1997
     Last Updated on STN: 24 Oct 1997
     Entered Medline: 16 Oct 1997
AB   OBJECTIVE: To explore in a cross sectional study in patients with primary
     knee osteoarthritis (OA) the relations between body mass index (BMI),
     disease stage, and the concentrations of a putative joint fluid marker of
     type II collagen synthesis, procollagen II
     C-propeptide. PATIENTS AND METHODS: The study included 142 patients with
     knee OA (median age 68, median BMI 24.1). OA was staged radiologically.
     The concentrations in synovial fluid of procollagen II
     C-propeptide were measured by a sandwich enzyme immunoassay.
     RESULTS: Joint fluid concentrations of procollagen II
     C-propeptide were increased in knees with OA (median 3.7 ng/ml), compared
     with published reference values for knees in healthy adult volunteers
     (median 1.3 ng/ml). The concentrations of procollagen II
     C-propeptide were independently related to both OA stage and BMI (r =
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0.343, p < 0.0001 and r, = 0.253, p = 0.002, respectively). CONCLUSIONS: Joint fluid concentrations of this putative marker of **collagen** II synthesis are high in early and mid-stage OA, but decrease in end stage disease. In addition and for the first time it was shown that the concentrations in synovial fluid of **procollagen** II C-propeptide increase with increasing BMI in primary knee OA. The increased joint fluid values of this marker in patients with primary knee OA and a high BMI, may reflect increased rates of **collagen** synthesis in their joint cartilage and could relate to the previously shown increased risk for disease progression in such patients.

CT Check Tags: Female; Male
Adult
Aged
Aged, 80 and over
Analysis of Variance
Biological Markers: AN, analysis
*Body Mass Index
*Calcium-Binding Proteins: AN, analysis
***Collagen: AN, analysis**
Collagen Type II
Cross-Sectional Studies
Disease Progression
Humans
Immunoenzyme Techniques
*Knee Joint
Knee Joint: RA, radiography
Middle Aged
*Osteoarthritis: ME, metabolism
Osteoarthritis: RA, radiography
*Protein Precursors: AN, analysis
Regression Analysis
Research Support, Non-U.S. Gov't
Risk Factors
*Synovial Fluid: CH, chemistry

RN **9007-34-5 (Collagen)**

CN 0 (Biological Markers); 0 (Calcium-Binding Proteins); **0 (Collagen Type II)**; 0 (Protein Precursors); 0 (chondrocalcin)

L29 ANSWER 2 OF 13 MEDLINE on STN
AN 97343445 MEDLINE
DN PubMed ID: 9200001
TI Measurement of bone degradation products in serum using antibodies reactive with an isomerized form of an 8 amino acid sequence of the C-telopeptide of type I **collagen**.
AU Bonde M; Garnero P; Fledelius C; **Qvist P**; Delmas P D; Christiansen C
CS Osteometer Bio Tech A/S, Herlev, Denmark.
SO Journal of bone and mineral research : the official journal of the American Society for Bone and Mineral Research, **(1997 Jul)** Vol. 12, No. 7, pp. 1028-34.
Journal code: 8610640. ISSN: 0884-0431.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199709
ED Entered STN: 22 Sep 1997
Last Updated on STN: 22 Sep 1997
Entered Medline: 9 Sep 1997
AB An enzyme-linked immunosorbent assay for measuring type I **collagen**

degradation products in serum (S-**ELISA**) was developed. The assay uses a high affinity polyclonal antibody which reacts with an isomerized form of an 8 amino acid sequence of the C-telopeptides of type I **collagen** (EKAHD-beta-GGR). Cross-reactivity to a nonisomerized synthetic peptide form of the 8 amino acid sequence is less than 0.2%. Values obtained in a group of premenopausal women (age, 33.3 +/- 3.11 years) were 69 +/- 24 ng/ml(n = 22). In a group of early postmenopausal women (age, 51.8 +/- 1.88 years) values obtained were 125 +/- 43 ng/ml (n = 46), which represents an increase of 81% ($p < 0.001$). Values found in untreated patients with Paget's disease were 234 +/- 95 ng/ml (n = 15), and for primary hyperparathyroidism we found 335 +/- 82 ng/ml (n = 10). Intravenous administration of a bisphosphonate (Pamidronate) to Paget's disease patients for 3 days was reflected in the S-**ELISA** by a decrease in the values of 55% when compared with values before treatment (n = 15). Following treatment with another bisphosphonate (Alendronate) for 6 months, values were decreased to 48 +/- 19 ng/ml (n = 12), which corresponds to a 62% decrease. Clinical results presented in this context support that the assay is a sensitive and specific index of bone resorption. It may, therefore, prove useful in the follow up of treatment of patients with metabolic bone diseases and in the clinical investigation of osteoporosis.

CT Check Tags: Female
Adult
Alendronate: TU, therapeutic use
Amino Acid Sequence
Antibodies
Biological Markers: BL, blood
*Bone Resorption: BL, blood
***Collagen: BL, blood**
Collagen: CH, chemistry
Collagen: IM, immunology
Cross Reactions
Diphosphonates: TU, therapeutic use
***Enzyme-Linked Immunosorbent Assay: MT, methods**
Enzyme-Linked Immunosorbent Assay: SN, statistics & numerical data
Humans
Hyperparathyroidism: BL, blood
Menopause: BL, blood
Menstruation: BL, blood
Middle Aged
Molecular Sequence Data
Osteitis Deformans: BL, blood
Osteitis Deformans: DT, drug therapy
Osteoporosis: BL, blood
*Peptides: BL, blood
Peptides: CH, chemistry
Peptides: IM, immunology
Sensitivity and Specificity

RN 40391-99-9 (pamidronate); 66376-36-1 (Alendronate); **9007-34-5 (Collagen)**

CN 0 (Antibodies); 0 (Biological Markers); 0 (Diphosphonates); 0 (Peptides); 0 (**collagen** type I trimeric cross-linked peptide)

L29 ANSWER 3 OF 13 MEDLINE on STN
AN 97272754 MEDLINE
DN PubMed ID: 9127460
TI Development of a monoclonal antibody to urinary degradation products from the C-terminal telopeptide alpha 1 chain of type I **collagen**. Application in an enzyme immunoassay and comparison to **CrossLaps**

ELISA.

AU Fledelius C; Kolding I; **Qvist P**; Bonde M; Hassager C; Reginster J Y; Hejgaard J; Frookiaer H; Christiansen C
CS Osteometer BioTech AS, Herlev, Denmark.

SO Scandinavian journal of clinical and laboratory investigation, **(1997 Feb)** Vol. 57, No. 1, pp. 73-83.
Journal code: 0404375. ISSN: 0036-5513.
CY Norway
DT (CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199706
ED Entered STN: 16 Jul 1997
Last Updated on STN: 3 Mar 2000
Entered Medline: 30 Jun 1997

AB A monoclonal antibody MAbA7 was raised against a synthetic peptide having a sequence (EKAHDGGR) specific for a part of the C-telopeptide alpha 1 chain of type I **collagen**. MAbA7 was labelled with horseradish peroxide and used in a competitive one-step enzyme-linked immunosorbent assay (**ELISA**) for measurement of urinary type I **collagen** degradation products. The assay was technically evaluated and preliminary clinical data are presented. The measuring range was 200-7000 micrograms l-1 with a detection limit of 25 micrograms l-1. Within-run and total CVs were 5.5 and 8.0%, respectively. Analytical recovery averaged 96.6% +/- 5.3 (mean +/- 1SD). Values obtained in the **ELISA** were highly correlated (r = 0.93) to values obtained by a commercially available assay (**CrossLaps ELISA**) known to measure urinary degradation products derived from the C-telopeptide of type I **collagen** reflecting the rate of bone resorption. Investigation of the urinary fragments responsible for the immunological response in the two assays revealed, however, that they are not identical. Values obtained in urine samples from postmenopausal women (n = 108) and patients with Paget's disease (n = 6) increased 43% ($p < 0.01$) and 28-fold ($p < 0.001$), respectively, when compared to a premenopausal level (n = 50). A decrease in the urinary concentrations of 67% ($p < 0.01$) was seen after 6 months in urine samples from postmenopausal women (n = 13) receiving hormone replacement therapy (HRT) compared to a group receiving placebo (n = 9). Likewise, the urinary concentrations decreased 88% ($p < 0.001$) in early postmenopausal women receiving bisphosphonate therapy (n = 11) for a period of 9 months compared to a group receiving placebo (n = 12). These results suggest that the monoclonal antibody and the new assay may be useful for further investigations of the physiological and clinical importance of type I **collagen** degradation.

CT Check Tags: Female
Adult
Aged
Amino Acid Sequence
Antibodies, Monoclonal: BI, biosynthesis
*Antibodies, Monoclonal: CH, chemistry
Antibodies, Monoclonal: IP, isolation & purification
Antibody Specificity
Bone Resorption: IM, immunology
Bone Resorption: UR, urine
Collagen: CH, chemistry
***Collagen: IM, immunology**
***Collagen: UR, urine**
Comparative Study
Enzyme-Linked Immunosorbent Assay

Humans
Immunoenzyme Techniques
Middle Aged
Peptide Fragments: CS, chemical synthesis
*Peptide Fragments: IM, immunology
*Peptide Fragments: UR, urine
Peptides: CH, chemistry
*Peptides: IM, immunology
*Peptides: UR, urine
Postmenopause
Premenopause
RN **9007-34-5 (Collagen)**
CN 0 (Antibodies, Monoclonal); 0 (Peptide Fragments); 0 (Peptides); 0 (**collagen** type I trimeric cross-linked peptide)

L29 ANSWER 4 OF 13 MEDLINE on STN
AN 97248522 MEDLINE
DN PubMed ID: 9092508
TI Characterization of urinary degradation products derived from type I **collagen**. Identification of a beta-isomerized Asp-Gly sequence within the C-terminal telopeptide (alpha1) region.
AU Fledelius C; Johnsen A H; Cloos P A; Bonde M; **Qvist P**
CS Osteometer BioTech A/S, Herlev Hovedgade 207, DK-2730 Herlev, Denmark.
SO The Journal of biological chemistry, **(1997 Apr 11)** Vol. 272, No. 15, pp. 9755-63.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199705
ED Entered STN: 23 May 1997
Last Updated on STN: 23 May 1997
Entered Medline: 15 May 1997
AB The heterogeneity of urinary degradation products of C-terminal telopeptides derived from the alpha1 chain of human type I **collagen** was investigated and characterized. The urinary fragments characterized in this study consisted of two cross-linked (X) amino acid sequences derived from the C-terminal telopeptide (alpha1) of type I **collagen**. Fragments containing the sequence EXAHDGGR, with a DG site being either nonisomerized (Asp-Gly) or beta-isomerized (betaAsp-Gly), were identified. Pyridinoline was detected among the pyridinium cross-links, but there was a dominance of deoxypyridinoline and a cross-link containing pyridinoline having a molecular weight identical with that of galactosyl pyridinoline. A nonfluorescent cross-link was also found. The concentration of fragments derived from the C-terminal telopeptide region of type I **collagen** containing the sequence Asp-Gly (alphaCTX) and/or betaAsp-Gly (betaCTX) was measured by enzyme-linked immunosorbent assays in urine and in **collagenase** digests of trabecular and cortical bone of young and old origin. It was shown that the urinary ratio between such fragments, alphaCTX/betaCTX, was higher in children compared with adults and that the ratio decreased with increasing age of bone. The results indicated that the C-terminal telopeptide fragments derived from type I **collagen** excreted into urine originated mainly from bone. In conclusion, it is demonstrated for the first time that the C-terminal telopeptide alpha1 chain of type I **collagen** contains an Asp-Gly site prone to undergo beta-isomerization and that the degree of beta-isomerization of this linkage apparently increases with increasing age of bone. These findings indicate that the ratio alphaCTX/betaCTX might be clinically important in

diagnosing metabolic bone diseases.
CT Adult
Amino Acid Sequence
Antibodies, Monoclonal
Aspartic Acid
Bone and Bones: CH, chemistry
Child
Chromatography, High Pressure Liquid
***Collagen: AN, analysis**
***Collagen: UR, urine**
Enzyme-Linked Immunosorbent Assay
Glycine
Humans
Isomerism
Molecular Sequence Data
*Peptides: AN, analysis
RN 56-40-6 (Glycine); 56-84-8 (Aspartic Acid); **9007-34-5 (Collagen)**
CN 0 (Antibodies, Monoclonal); 0 (Peptides); 0 (**collagen** type I trimeric cross-linked peptide)

L29 ANSWER 5 OF 13 MEDLINE on STN
AN 97027883 MEDLINE
DN PubMed ID: 8873970
TI High bone turnover is associated with low bone mass in both pre- and postmenopausal women.
AU Ravn P; Fledelius C; **Rosenquist C**; Overgaard K; Christiansen C
CS Center for Clinical and Basic Research, Ballerup, Denmark.
SO Bone, **(1996 Sep)** Vol. 19, No. 3, pp. 291-8.
Journal code: 8504048. ISSN: 8756-3282.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199701
ED Entered STN: 19 Feb 1997
Last Updated on STN: 19 Feb 1997
Entered Medline: 29 Jan 1997
AB In 979 healthy women, aged 30-75 years, bone mass was measured by DXA in the lumbar spine and proximal femur, and by SXA in the distal forearm. Bone turnover was assessed by urinary **CrossLaps** (**CrossLaps ELISA**), a new assay which measures type I **collagen** degradation products in urine and by osteocalcin (two-site N-Mid hOsteocalcin **ELISA**), a new assay which measures the N-terminal-mid fragment (1-43) as well as the intact (1-49) osteocalcin (OCN-Mid) in serum. For comparison data on urinary hydroxyproline (fU Hpr/Cr) and serum, total alkaline phosphatase were included (AP). In premenopausal women below 50 years of age, the concentrations of the biochemical markers were stable with age. At menopause **CrossLaps** and OCN-Mid increased abruptly to a level 60% and 35% above the premenopausal mean values ($p < 0.001$). Premenopausal women in the highest quartiles, stratified according to the concentration of **CrossLaps** and OCN-Mid corrected for height and weight, had 6%-11% lower bone mass in all regions ($p < 0.01$) as compared to women in the lowest quartiles. **CrossLaps** and OCN-Mid corrected for height and weight correlated with bone mass in the spine and proximal femur, $r = -0.13$ to $r = -0.28$, $p < 0.05$. In postmenopausal women, the difference in bone mass between the highest and lowest quartiles was 8%-14% ($p < 0.001$). **CrossLaps** and OCN-Mid correlated with bone mass measured in all regions, $r = -0.14$ to $r = -0.32$, $p < 0.05$. The correlation between bone mass and AP and Fu Hpr/Cr was

lower; r = -0.06 to r = -0.20 for premenopausal women, NS to p < 0.01, and r = -0.01 to r = -0.23, NS to p < 0.001 for postmenopausal women. In conclusion, the present data indicate that high bone turnover is associated with a significantly lower bone mass in not only postmenopausal, but interestingly also in premenopausal women. In consistence with previous results, we found that bone turnover increased perimenopausally and in the early menopause.

CT Check Tags: Female
Adult
Aged
Analysis of Variance
Biological Markers: CH, chemistry
*Bone Density: PH, physiology
*Bone Development: PH, physiology
*Bone Resorption: PP, physiopathology
Collagen: ME, metabolism
Comparative Study
Cross-Sectional Studies
Enzyme-Linked Immunosorbent Assay
Evaluation Studies
Humans
Linear Models
Middle Aged
Peptide Fragments: ME, metabolism
*Postmenopause: PH, physiology
*Premenopause: PH, physiology
Reference Values

RN **9007-34-5 (Collagen)**

CN 0 (Biological Markers); 0 (Peptide Fragments)

L29 ANSWER 6 OF 13 MEDLINE on STN

AN 97007889 MEDLINE

DN PubMed ID: 8855148

TI Coated-tube radioimmunoassay for C-telopeptides of type I **collagen** to assess bone resorption.

AU Bonde M; Fledelius C; **Qvist P**; Christiansen C

CS Osteometer BioTech A/S, Herlev, Denmark.

SO Clinical chemistry, **(1996 Oct)** Vol. 42, No. 10, pp. 1639-44.
Journal code: 9421549. ISSN: 0009-9147.

CY United States

DT (CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199612

ED Entered STN: 28 Jan 1997
Last Updated on STN: 28 Jan 1997
Entered Medline: 5 Dec 1996

AB We present a coated-tube RIA that is useful for assessment of bone resorption. The assay uses a monoclonal antibody raised against a linear 8-amino-acid sequence (EKAHDGGR) derived from the C-telopeptides of type I **collagen**. Within-run and total CVs were 4.4% and 5.3-6.2%, respectively, at concentrations of 1-7 mg/L (n = 4-20). Analytical recovery was 98% +/- 8% and dilution 97% +/- 7%. Values obtained in a group of 36 premenopausal women were 227 +/- 89.6 mg/mol creatinine. In a group of 141 postmenopausal women, the values obtained were 429 +/- 225 mg/mol creatinine, a highly significant increase of 89% (P <0.001) over the premenopausal value. In a double-blind placebo-controlled clinical study of these postmenopausal women receiving five different doses of a

bisphosphonate, a significant decrease of RIA-measured C-telopeptide values was seen in all bisphosphonate-treated groups, after just 3 months. Values in urine samples from postmenopausal women assayed with the RIA (gamma) and the **CrossLaps**(TM) **ELISA** (x) agreed well: slope = 0.98 (95% confidence interval, 0.94-1.01), intercept = 0.34 (0.25-0.43) mg/L, and Sylx = 0.93 mg/L (n = 678). We conclude that this RIA represents a valuable tool for assessing bone resorption.

CT Check Tags: Female
Adult
Aged
Amino Acid Sequence
Animals
Antibodies, Monoclonal: IM, immunology
Bone Density
Bone Resorption: PC, prevention & control
*Bone Resorption: UR, urine
Collagen: IM, immunology
***Collagen: UR, urine**
Diphosphonates: TU, therapeutic use
Double-Blind Method
Enzyme-Linked Immunosorbent Assay
Humans
Mice
Mice, Inbred BALB C
Middle Aged
Peptide Fragments: IM, immunology
Peptides: IM, immunology
*Peptides: UR, urine
Postmenopause: UR, urine
Premenopause: UR, urine
*Radioimmunoassay: MT, methods
Reference Values

RN **9007-34-5 (Collagen)**

CN 0 (Antibodies, Monoclonal); 0 (Diphosphonates); 0 (Peptide Fragments); 0 (Peptides); 0 (**collagen** type I trimeric cross-linked peptide)

L29 ANSWER 7 OF 13 MEDLINE on STN

AN 95189878 MEDLINE

DN PubMed ID: 7883844

TI Applications of an enzyme immunoassay for a new marker of bone resorption (**CrossLaps**): follow-up on hormone replacement therapy and osteoporosis risk assessment.

AU Bonde M; **Qvist P**; Fledelius C; Riis B J; Christiansen C

CS Osteometer A/S, Rodovre, Denmark.

SO The Journal of clinical endocrinology and metabolism, **(1995 Mar)** Vol. 80, No. 3, pp. 864-8.
Journal code: 0375362. ISSN: 0021-972X.

CY United States

DT (CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199504

ED Entered STN: 25 Apr 1995
Last Updated on STN: 29 Jan 1999
Entered Medline: 11 Apr 1995

AB An enzyme-linked immunosorbent immunoassay (**ELISA**) for a new marker of bone resorption (**CrossLaps**) was evaluated. The **ELISA** procedure determines degradation products of type I

collagen in urine. Values obtained in the **ELISA** and in pyridinoline by high pressure liquid chromatography were correlated after a correction for creatinine. A high correlation was found (r = 0.77; n = 81). A group of postmenopausal women (n = 180) showed an increase of more than 70% compared to values in premenopausal women (n = 104). Hydroxyproline was increased by 23%, osteocalcin by 52%, pyridinoline by 31%, and deoxypyridinoline by 50%. A highly significant decrease (60.7%) in the **CrossLaps** values was seen after 12 months in samples from patients receiving hormone replacement therapy compared to a placebo group. The spontaneous bone loss in an untreated group of women was determined by repeated forearm bone mass measurement over 24 months. Baseline values obtained in the **CrossLaps ELISA** were correlated to the rate of loss, yielding a highly significant r value of -0.61, indicating that **CrossLaps** might be a useful parameter for assessment of the risk of osteoporosis in postmenopausal women.

CT Check Tags: Female
Amino Acid Sequence
Amino Acids: UR, urine
Biological Markers
*Bone Resorption: DI, diagnosis
***Collagen: ME, metabolism**
Enzyme-Linked Immunosorbent Assay
*Estrogen Replacement Therapy
Follow-Up Studies
Humans
Middle Aged
Molecular Sequence Data
*Osteoporosis: ET, etiology
Risk

RN 63800-01-1 (pyridinoline); 90032-33-0 (deoxypyridinoline); **9007-34-5 (Collagen)**

CN 0 (Amino Acids); 0 (Biological Markers)

L29 ANSWER 8 OF 13 MEDLINE on STN
AN 95043378 MEDLINE
DN PubMed ID: 7955372
TI Immunoassay for quantifying type I **collagen** degradation products in urine evaluated.
AU Bonde M; **Qvist P**; Fledelius C; Riis B J; Christiansen C
CS Center for Clinical and Basic Research, Ballerup, Denmark.
SO Clinical chemistry, **(1994 Nov)** Vol. 40, No. 11 Pt 1, pp. 2022-5.
Journal code: 9421549. ISSN: 0009-9147.
CM Comment in: Clin Chem. 1994 Nov;40(11 Pt 1):1994-5. PubMed ID: 7955367
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199412
ED Entered STN: 10 Jan 1995
Last Updated on STN: 10 Dec 2002
Entered Medline: 8 Dec 1994
AB An enzyme-linked immunosorbent assay (**ELISA**) for measuring type I **collagen** degradation products in urine < 3 h was evaluated. The measuring range was 0.5-10.5 mg/L with a detection limit of 0.2 mg/L. Within-run and total CVs were 5.3% and 6.6%, respectively. Analytical recovery averaged 100%. The mean (+/- SD) concentrations in urine samples from a healthy premenopausal population (n = 102) were 250 +/- 110 mg/mol creatinine (Cr). A group of healthy postmenopausal women (n = 410) gave a mean value of 416 +/- 189 mg/mol Cr. Values obtained in the **ELISA** correlated well (r = 0.83) to HPLC values for the established bone

resorption marker deoxypyridinoline (n = 214), slightly better than the correlation to hydroxyproline measurements (r = 0.78, n = 421). We conclude that the assay described here presents a useful tool for further elucidating the importance of type I **collagen** degradation products in urine.

CT Check Tags: Female
Amino Acid Sequence
Chromatography, High Pressure Liquid
Collagen: CH, chemistry
***Collagen: UR, urine**
Comparative Study
Creatinine: UR, urine
Drug Stability
***Enzyme-Linked Immunosorbent Assay: MT, methods**
Enzyme-Linked Immunosorbent Assay: SN, statistics & numerical data
Freezing
Humans
Molecular Sequence Data
Peptide Fragments: CH, chemistry
*Peptide Fragments: UR, urine
Postmenopause: UR, urine
Premenopause: UR, urine
Reference Values

RN 60-27-5 (Creatinine); **9007-34-5 (Collagen)**
CN 0 (Peptide Fragments)

L29 ANSWER 9 OF 13 MEDLINE on STN
AN **94125564** MEDLINE
DN PubMed ID: 8295344
TI Evaluation of type IV **collagen** in patients with various thyroid disease.
AU Senda Y; Nishibu M; Kawai K; Mizukami Y; Hashimoto T
CS Central Clinical Laboratory, Kanazawa University School of Medicine.
SO Rinsho byori. The Japanese journal of clinical pathology, **(1993 Dec)** Vol. 41, No. 12, pp. 1338-42.
Journal code: 2984781R. ISSN: 0047-1860.
CY Japan
DT Journal; Article; (JOURNAL ARTICLE)
LA Japanese
FS Priority Journals
EM 199402
ED Entered STN: 14 Mar 1994
Last Updated on STN: 14 Mar 1994
Entered Medline: 25 Feb 1994
AB Serum level of type IV **collagen** was measured in 104 patients with various thyroid disease, and the relationship between its level and thyroid hormone level was examined. The type IV **collagen** was measured by the method of one step **sandwich** enzyme immunoassay (EIA) using two distinct monoclonal antibodies recognized triple-helical (TH) domain and 7-S domain, respectively. The serum level of type IV **collagen** was significantly high in the hyperthyroid patients compared with that in normal controls, and a significant positive correlation was found between its value and thyroid hormone levels (T3, T4, FT3, FT4). The elevated level of type IV **collagen** in hyperthyroid patients was decreased to normal level, when they became to euthyroid after antithyroid drug therapy for hyperthyroidism. The serum level of type IV **collagen** was in normal range in hypothyroid patients, but the value was increased to high normal range after T4-replacement therapy for hypothyroidism. This evidence indicates that

the serum level of type IV **collagen** is closely related to thyroid hormone level in patient with various thyroid disease. Type IV **collagen** concentration might be one of the useful variables for evaluating the thyroid function, although its mechanism is not elucidated.

CT Check Tags: Female
Adult
***Collagen: BL, blood**
English Abstract
Humans
Hyperthyroidism: BL, blood
Hypothyroidism: BL, blood
Immunoenzyme Techniques
*Thyroid Diseases: BL, blood
Thyroid Hormones: BL, blood

RN **9007-34-5 (Collagen)**
CN 0 (Thyroid Hormones)

L29 ANSWER 10 OF 13 MEDLINE on STN
AN **93047324** MEDLINE
DN PubMed ID: 1330375
TI Concentration of serum laminin and type IV **collagen** in liver diseases assayed by a **sandwich** enzyme-immunoassay using monoclonal antibodies.
AU Yokoya Y; Iwata K; Muragaki Y; Shiota C; Morimoto Y; Inoue M; Itoh H; Nishioka S; Ooshima A
CS Department of Pathology, Wakayama Medical College, Japan.
SO Clinica chimica acta; international journal of clinical chemistry, **(1992 Sep 15)** Vol. 210, No. 1-2, pp. 109-18.
Journal code: 1302422. ISSN: 0009-8981.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199212
ED Entered STN: 22 Jan 1993
Last Updated on STN: 22 Jan 1993
Entered Medline: 15 Dec 1992
AB Serum laminin (P1 fragment) and type IV **collagen** levels were determined in patients with hepatic disorders. The method was based on a **sandwich** enzyme-immunoassay using two monoclonal antibodies that recognize different epitopes of either laminin or type IV **collagen** molecule. Laminin and type IV **collagen** levels in the serum of patients with chronic hepatic disorders were higher as compared with those in healthy control subjects, with the increment of serum type IV **collagen** being far greater than that of laminin. Since type IV **collagen** and laminin are major basement membrane components, it is suggested that the higher levels of these peptides may reflect a so-called capillarization of the perisinusoidal wall encountered in hepatic fibrogenesis. The assay system used in this experiment is simple and sensitive and can be applied to clinical evaluation of hepatic fibrosis.

CT Adolescent
Adult
Aged
Aged, 80 and over
*Antibodies, Monoclonal
Carcinoma, Hepatocellular: BL, blood
Carcinoma, Hepatocellular: CO, complications
Child
***Collagen: BL, blood**
Hepatitis: BL, blood

Humans
*Immunoenzyme Techniques
*Laminin: BL, blood
Liver Cirrhosis: BL, blood
Liver Cirrhosis: CO, complications
*Liver Diseases: BL, blood
Liver Neoplasms: BL, blood
Liver Neoplasms: CO, complications
Middle Aged
RN **9007-34-5 (Collagen)**
CN 0 (Antibodies, Monoclonal); 0 (Laminin)

L29 ANSWER 11 OF 13 MEDLINE on STN
AN **92335802** MEDLINE
DN PubMed ID: 1631498
TI Significance of serum type-IV **collagen** levels in various liver diseases. Measurement with a one-step **sandwich** enzyme immunoassay using monoclonal antibodies with specificity for pepsin-solubilized type-IV **collagen**.
AU Ueno T; Inuzuka S; Torimura T; Oohira H; Ko H; Obata K; Sata M; Yoshida H; Tanikawa K
CS Second Dept. of Medicine, Kurume University School of Medicine, Fukuoka, Japan.
SO Scandinavian journal of gastroenterology, **(1992 Jun)** Vol. 27, No. 6, pp. 513-20.
Journal code: 0060105. ISSN: 0036-5521.
CY Norway
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199208
ED Entered STN: 4 Sep 1992
Last Updated on STN: 4 Sep 1992
Entered Medline: 14 Aug 1992
AB Serum type-IV **collagen** levels determined with a one-step **sandwich** enzyme immunoassay (EIA) using monoclonal antibodies with specificity for pepsin-solubilized type-IV **collagen** were compared with histologic changes in liver biopsy specimens from 107 patients with various liver diseases. Serum type-IV **collagen** levels were increased in the groups with liver diseases compared with controls. The serum type-IV **collagen** levels in the group with alcoholic cirrhosis showed significantly higher values than the other groups (P less than 0.05). A significant positive correlation was found between the serum type-IV **collagen** level and the degree of fibrosis or cell infiltration in 107 patients. Immunolocalization of type-IV **collagen** was observed around blood vessels and bile ducts increased in number in the portal tracts, with cell infiltration and fibrosis, increased around vessels in fibrous septa, and sinusoidal walls of areas with cell infiltration or necrosis in hepatic lobules, and along the boundary between fibrous septa and hepatocytes. The present data indicate that serum type-IV **collagen** may be a sensitive marker for active fibrosis and that the elevation of serum type-IV **collagen** level primarily reflects the enhancement of type-IV **collagen** synthesis and deposition in the liver tissue at the stage of active fibrosis in liver disease.
CT Check Tags: Female; Male
Adolescent
Adult
Aged
Antibodies, Monoclonal

Collagen: AN, analysis
***Collagen: BL, blood**
Hepatitis: BL, blood
Hepatitis: PA, pathology
Humans
Immunoenzyme Techniques
Immunohistochemistry
Liver: CH, chemistry
Liver: PA, pathology
*Liver Diseases: BL, blood
Liver Diseases: PA, pathology
Liver Diseases, Alcoholic: BL, blood
Liver Diseases, Alcoholic: PA, pathology
Middle Aged
Research Support, Non-U.S. Gov't
RN **9007-34-5 (Collagen)**
CN 0 (Antibodies, Monoclonal)

L29 ANSWER 12 OF 13 MEDLINE on STN
AN **91011314** MEDLINE
DN PubMed ID: 1976752
TI The occurrence and clinical significance of antibodies to type II **collagen** in sera and synovial fluid of Chinese patients with rheumatoid arthritis.
AU Chang M L; Chou C T; Lee C F
CS Department of Internal Medicine, Tri-Service General Hospital, National Defense Medical Center, Taipei, R.O.C.
SO Journal of the Formosan Medical Association = Taiwan yi zhi, **(1990 Apr)** Vol. 89, No. 4, pp. 326-30.
Journal code: 9214933. ISSN: 0929-6646.
CY TAIWAN: Taiwan, Province of China
DT Journal; Article; (JOURNAL ARTICLE)
LA Chinese
FS Priority Journals
EM 199011
ED Entered STN: 17 Jan 1991
Last Updated on STN: 6 Feb 1995
Entered Medline: 19 Nov 1990
AB Antibodies to type II **collagen** (Col II) in sera and synovial fluid (SF) were measured with an enzyme linked immunosorbent assay (**ELISA**) using a solid phase **sandwich** method. The subjects included: 42 patients with rheumatoid arthritis (RA); 31 cases of osteoarthritis (OA); 10 cases of gouty arthritis; 4 cases of ankylosing spondylitis (AS); 5 cases of systemic lupus erythematosus (SLE); and 44 normal controls. The antigens used to detect antibodies against Col II were in native and heat-treated denatured forms, both of which were purified from chicken sternal cartilage by limited enzyme digestion and differential precipitation with salt. The reactivity to native type II **collagen** was generally higher than the reaction to the denatured **collagen**. In sera, significant higher levels of Col II were detected in the different arthritis groups when compared with the normal control group, with the exception of AS. In SF, the Col II was significantly higher in RA than it was in OA (p less than 0.001), while no difference was present between gout and OA (p less than 0.05). When native Col II was simultaneously measured in sera and SF among arthritics, positive rates were both higher among RA (65% and 58%, respectively). Positive rates were only higher in sera among OA (59% in sera and 3% in SF) and were both lower among gouty arthritis. The above findings show that the measurement of Col II is more important in SF than in sera.
CT *Arthritis, Rheumatoid: IM, immunology

*Autoantibodies: BL, blood
China
***Collagen: IM, immunology**
English Abstract
Humans
*Synovial Fluid: IM, immunology
RN **9007-34-5 (Collagen)**
CN 0 (Autoantibodies)

L29 ANSWER 13 OF 13 MEDLINE on STN
AN **89337162** MEDLINE
DN PubMed ID: 2547537
TI One step **sandwich** enzyme immunoassay for human type IV **collagen** using monoclonal antibodies.
AU Obata K; Iwata K; Ichida T; Inoue K; Matsumoto E; Muragaki Y; Ooshima A
CS Department of Biotechnology, Fuji Chemical Industries, Ltd., Toyama, Japan.
SO Clinica chimica acta; international journal of clinical chemistry, **(1989 May 31)** Vol. 181, No. 3, pp. 293-303.
Journal code: 1302422. ISSN: 0009-8981.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198909
ED Entered STN: 9 Mar 1990
Last Updated on STN: 9 Mar 1990
Entered Medline: 20 Sep 1989
AB Monoclonal antibodies were used in one step **sandwich** enzyme immunoassay (one step **sandwich** EIA) for human serum immunoreactive type IV **collagen**. The one step **sandwich** EIA using either polystyrene ball or microplate was characterized by carrying out two immunoreactions simultaneously, type IV **collagen** reacting with both a monoclonal antibody as a solid phase and a horseradish peroxidase-labeled monoclonal antibody (Fab') against human type IV **collagen** as a conjugate. Sensitivity of one step **sandwich** EIA system by using either polystyrene ball or microplate was 0.22 ng per tube or 0.04 ng per well for type IV **collagen**, and linearity was obtained between 0.22-40 ng/tube or 0.04-20 ng per well, respectively. Both methods gave reproducible quantitative analysis of immunoreactive type IV **collagen** levels in the sera of patients with hepatocellular carcinoma and patients with liver cirrhosis, which were apparently higher than the levels in the sera of healthy subjects. Protein immunoblotting shows that the immunoreactive type IV **collagen** trapped in our present one step **sandwich** EIA system was not the 7-S and NC1 domains of type IV **collagen**.
CT *Antibodies, Monoclonal: AN, analysis
Carcinoma, Hepatocellular: BL, blood
***Collagen: BL, blood**
Collagen: IM, immunology
Cross Reactions
Humans
Immunoblotting
Immunoenzyme Techniques
Liver Cirrhosis: BL, blood
Liver Neoplasms: BL, blood
Pepsin A
Polystyrenes
RN **9007-34-5 (Collagen)**
CN 0 (Antibodies, Monoclonal); 0 (Polystyrenes); EC 3.4.23.1 (Pepsin A)

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MOST RECENT DERWENT UPDATE:     200630        <200630/DW>
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http://www.stn-international.de/stndatabases/details/ipc_reform.html and
http://scientific.thomson.com/media/scpdf/ipcrdwpi.pdf <<<
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L51  ANSWER 1 OF 4  WPIX  COPYRIGHT 2006 THE THOMSON CORP on STN
AN   2002-692261 [75]   WPIX
DNN  N2002-546095       DNC C2002-195740
TI   Anti-human IV type collagen enzyme linked immunological
     quantitative determining kit and preparing method.
DC   B04 D16 S03
IN   JIANG, P; MO, W
PA   (BEIJ-N) BEIJING CHEM REAGENT INST
CYC  1
PI   CN 1188235      A  19980722 (200275)*            G01N033-53
ADT  CN 1188235 A CN 1997-122057 19971219
PRAI CN 1997-122057       19971219
IC   ICM  G01N033-53
AB   CN   1188235 A UPAB: 20021120
     NOVELTY - The present invention relates to an antihuman IV type
     collagen protease linked immunoquantitative
     assay kit and its preparation method. It consists of
     enzyme scale plate and testing reagent, and uses human placenta to
     extract IV collagen, and adopts cell engineering--hybridoma
     technology to prepare monoclonal antibody, and uses enzyme
     linked immunosorbent principle to coat the monoclonal
     antibody on enzyme scale plate.
          DETAILED DESCRIPTION - The present invention relates to an antihuman
     IV type collagen protease linked immunoquantitative
     assay kit and its preparation method. It consists of
     enzyme scale plate and testing reagent, and uses human placenta to
     extract IV collagen, and adopts cell engineering--hybridoma
     technology to prepare monoclonal antibody, and uses enzyme
     linked immunosorbent principle to coat the monoclonal
     antibody on enzyme scale plate. It adopts double antibody
     sandwich method to quantitatively determine IV type
     collagen content in human serum. The invention can be used for
     diagnosis and treatment of fibrosis of liver and judgement after disease,
     and possesses good sensitivity, specificity and reproducibility and
     accuracy, so that it can meet requirement for clinical examination.
     Dwg.0/0
```

FS CPI EPI
FA AB
MC CPI: B04-B04D4; B04-G01; B04-G21; B04-L01; B04-N02; B11-C07A4; B12-K04A; B14-N12; D05-A01A4; D05-A01B; D05-H09; D05-H11A
EPI: S03-E14H4

L51 ANSWER 2 OF 4 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **1998-447376** [38] WPIX
DNN N1998-348672 DNC C1998-135811
TI Immunoassay kit containing two antibodies recognising coupled epitope(s) on **collagen** fragments - and new antibodies, for diagnosing arthritis etc., also prognosis and screening for anti-arthritic agents or inhibitors of matrix metallo-protease.
DC B04 D16 S03
IN CROUCHER, L J; HOLLANDER, A P
PA (UYSH-N) UNIV SHEFFIELD
CYC 82
PI WO 9835235 A1 19980813 (199838)* EN 59 G01N033-577
RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
AU 9859560 A 19980826 (199902) G01N033-577
EP 960339 A1 19991201 (200001) EN G01N033-577
R: CH DE FR GB IT LI SE
JP 2001511253 W 20010807 (200150) 59 G01N033-577
ADT WO 9835235 A1 WO 1998-GB304 19980130; AU 9859560 A AU 1998-59560 19980130; EP 960339 A1 EP 1998-902752 19980130, WO 1998-GB304 19980130; JP 2001511253 W JP 1998-533982 19980130, WO 1998-GB304 19980130
FDT AU 9859560 A Based on WO 9835235; EP 960339 A1 Based on WO 9835235; JP 2001511253 W Based on WO 9835235
PRAI GB 1997-2252 19970206
IC ICM G01N033-577
ICS **C07K014-78**; C07K016-18; C07K016-46; C12N005-10; C12N005-20; C12P021-08; G01N033-15; G01N033-50; G01N033-68
AB WO 9835235 A UPAB: 19981028
Immunoassay kit comprises two antibodies (Ab1 and Ab2), mono- or poly-clonal, or their fragments, that bind to two C-IIfree coupled epitopes (C-IIfree indicates any type II **collagen** fragment that is released from degraded cartilage). Also new are: (1) any Ab that binds to a coupled epitope on C-IIfree; (2) fragments of Ab; (3) bifunctional heteroantibodies (hAb) that bind to two C-IIfree coupled epitopes; (4) therapeutic agents identified by screening with the new kit; (5) cells, or cell lines, that express Ab or hAb and their fragments, and (6) isolated C-IIfree having at least 2 epitopes for production of Ab.
The kits are designed for **sandwich** immunoassays, specifically **enzyme-linked immunosorbent assay** (**ELISA**), and C-IIfree is systemic (present in urine, serum or synovial fluid). The coupled epitopes comprise, or are present in, the N-terminal region of the alpha 1 type II **collagen** chain and can bind both Ab without mutual steric interference. The epitopes are conformational and/or contiguous and are separated by at least 2, up to 20, amino acids. Particularly Ab1 is immobilised on a support and/or Ab2 is labelled, particularly with biotin (used with an avidin-**enzyme** conjugate), radioisotope or **enzyme** (alkaline phosphatase or peroxidase). Ab1 is directed against epitope AH8, e.g. AH8MAb or AH8L1, and Ab2 is directed against AH12 (e.g. AH12L3), or vice versa.

USE - The kits are used for therapy, diagnosis (e.g. routine screening for arthritis and other cartilage diseases, also to diagnose growth disorders), prognosis (e.g. monitoring progression of rheumatoid arthritis and osteoarthritis, or monitoring treatment with growth hormone) and for drug screening (to identify, and assess efficacy of, anti-arthritic agents and matrix metalloprotease inhibitors). hAb are used in immunoprecipitation assays.

ADVANTAGE - C-IIfree, derived from the N-terminus of the alpha 1 chain, have increased resistance to proteolysis, so can accumulate in vivo to a concentration that allows accurate measurement by immunoassay. Since they contain two or more epitopes, **sandwich** assays, which are more sensitive than inhibition assays and not subject to interference from **collagen**-binding proteins, can be developed.

Dwg.0/20

FS CPI EPI

FA AB

MC CPI: B04-G01; B11-C07; B12-K04A; B14-C09B; B14-N01; D05-A01A4; D05-A01B; D05-H08; D05-H09; D05-H11; D05-H15

EPI: S03-E14H4

L51 ANSWER 3 OF 4 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN

AN **1998-348692** [30] WPIX

DNN N1998-272087 DNC C1998-107896

TI Measurement of type I **collagen** resorption - by a **sandwich** assay for **collagen** degradation products.

DC B04 D16 S03

IN QVIST, P; ROSENQUIST, C; CHRISTGAU, S

PA (OSTE-N) OSTEOMETER BIOTECH AS; (QVIS-I) QVIST P; (ROSE-I) ROSENQUIST C; (CHRI-I) CHRISTGAU S

CYC 80

PI

WO 9826286	A2	19980618	(199830)*	EN	39	G01N033-53
RW: AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW						
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW						
AU 9857542	A	19980703	(199847)			G01N033-53
EP 944833	A2	19990929	(199945)	EN		G01N033-53
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE						
JP 2001506000	W	20010508	(200131)		40	G01N033-53
EP 944833	B1	20010627	(200137)	EN		G01N033-53
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE						
DE 69705423	E	20010802	(200151)			G01N033-53
ES 2160985	T3	20011116	(200201)			G01N033-53
US 2003148272	A1	20030807	(200358)			C12Q001-68
US 6660481	B2	20031209	(200381)			G01N033-53
US 2004224375	A1	20041111	(200475)			G01N033-53

ADT WO 9826286 A2 WO 1997-EP6803 19971205; AU 9857542 A AU 1998-57542 19971205; EP 944833 A2 EP 1997-953745 19971205, WO 1997-EP6803 19971205; JP 2001506000 W WO 1997-EP6803 19971205, JP 1998-526186 19971205; EP 944833 B1 EP 1997-953745 19971205, WO 1997-EP6803 19971205; DE 69705423 E DE 1997-605423 19971205, EP 1997-953745 19971205, WO 1997-EP6803 19971205; ES 2160985 T3 EP 1997-953745 19971205; US 2003148272 A1 WO 1997-EP6803 19971205, US 1999-319539 19990608; US 6660481 B2 WO 1997-EP6803 19971205, US 1999-319539 19990608; US 2004224375 A1 CIP of WO 1997-EP6803 19971205, CIP of US 1999-319539 19990608, US 2003-730070 20031209

FDT AU 9857542 A Based on WO 9826286; EP 944833 A2 Based on WO 9826286; JP 2001506000 W Based on WO 9826286; EP 944833 B1 Based on WO 9826286; DE 69705423 E Based on EP 944833, Based on WO 9826286; ES 2160985 T3 Based on

EP 944833; US 6660481 B2 Based on WO 9826286; US 2004224375 A1 CIP of US 6660481
PRAI GB 1997-5687 19970319; GB 1996-25559 19961209
IC ICM C12Q001-68; G01N033-53
ICS C12N005-06; C12N005-16; G01N033-537; G01N033-543; G01N033-68
ICA C07K016-18
AB WO 9826286 A UPAB: 19980730
(A) A method is claimed for the measurement of the rate of type 1 **collagen** resorption comprising measuring in a sample the amount of a population of **collagen** fragments by a **sandwich** assay using a first antibody reactive with a first epitope located in the **collagen** amino acid sequence EKAHDGGR or in isomerised and/or racemised variants and a second antibody reactive with a second **collagen** epitope located in the fragments.
Also claimed are:
(B) a method of conducting a **sandwich** assay comprising:
(a) mixing a target antigen (TA) containing at least 2 antigenically similar epitopes with a first antibody reactive with both the epitopes, the first antibody is coupled to a capture moiety, and with a second antibody reactive with both the epitopes, the second antibody is coupled to a label, so as to form a first antibody - TA - second antibody **sandwich**; (b) capturing the **sandwich** to a capture substrate having an affinity for the capture moiety of the first antigen, and
(c) detecting the capture of the **sandwich** by detection of the label of the second antibody;
(C) a **sandwich** assay for **collagen** degradation products in which antibodies of identical specificity are used on both sides of the **sandwich**, and
(D) a method of measurement of the concentration of **collagen** degradation products in a sample comprising conducting a **sandwich** assay using first and second immunological binding partners (which may be the same or different) each being immunologically reactive and an epitope in an N-terminal telopeptide fragment produced upon **collagen** degradation in vivo.
USE - The methods can be used to determine the metabolic status of tissues which generate **collagen**-derived peptides and isomerised and/or racemised peptide analogues when degradation occurs. They can be used to assess an abnormal condition of a subject by indicating excessive bone resorption. This may show the presence of an osteoporotic condition or the metastatic progress of a malignancy. Other conditions characterised by excessive bone resorption include Paget's disease and hyperparathyroidism.
Dwg.0/3
FS CPI EPI
FA AB
MC CPI: B04-B04C; B04-G01; B04-N02; B11-C07; B12-K04A; D05-H09; D05-H11A
EPI: S03-E14H4

L51 ANSWER 4 OF 4 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
AN **1989-263792** [36] WPIX
DNN N1989-201270 DNC C1989-117142
TI Human type IV **collagen** determn. by **sandwich** enzyme immunoassay - for diagnosis of liver diseases such as hepatoma or chronic hepatitis.
DC B04 D16 J04 S03
IN INOUE, K; IWATA, K; OBATA, K; OSHIMA, A
PA (FUJY) FUJI YAKUHIN KOGYO KK; (FUJY) FUJI PHARM IND CO LTD
CYC 6
PI WO 8907761 A 19890824 (198936)* JA 59

RW: DE FR GB IT
W: US
JP 02001553 A 19900105 (199007)
EP 401370 A 19901212 (199050)
R: DE FR GB IT
JP 06077017 B2 19940928 (199437) 15 G01N033-53
EP 401370 A4 19911113 (199520)
JP 07072148 A 19950317 (199520) 15 G01N033-53
EP 401370 B1 19950524 (199525) EN 31 G01N033-53
R: DE FR GB IT
DE 68922846 E 19950629 (199531) G01N033-53

ADT WO 8907761 A WO 1989-JP161 19890217; JP 02001553 A JP 1989-36111 19890217; EP 401370 A EP 1989-902540 19890217; JP 06077017 B2 JP 1989-36111 19890217; EP 401370 A4 EP 1989-902540 ; JP 07072148 A Div ex JP 1989-36111 19890217, JP 1993-252053 19890217; EP 401370 B1 EP 1989-902540 19890217, WO 1989-JP161 19890217; DE 68922846 E DE 1989-622846 19890217, EP 1989-902540 19890217, WO 1989-JP161 19890217

FDT JP 06077017 B2 Based on JP 02001553; EP 401370 B1 Based on WO 8907761; DE 68922846 E Based on EP 401370, Based on WO 8907761

PRAI JP 1988-35099 19880219; JP 1989-36111 19890217

REP 5.Jnl.Ref; DE 3115115; FR 2481318; GB 2074727; JP 57016355; JP 63246396; 8.Jnl.Ref

IC A61K039-39; C12P021-08; G01N033-53
ICM G01N033-53
ICS A61K039-39; C12P021-08; G01N033-543; G01N033-577

AB WO 8907761 A UPAB: 19930923
Assay of the central triple helix moiety of human type IV **collagen** is carried out by a single-stage **sandwich** enzyme immunoassay using a monoclonal antibody for a specific part of pepsin-modified human type IV **collagen** (pref. the **collagen** 7-S domain). The method uses as reagent solution an enzyme-labelled antibody recognising the central triple helix moiety of human type IV **collagen**; and as solid carrier to which is bound a monoclonal antibody recognising the central triple helix moiety of human type **collagen**. The reagent solution is added to the sample and after reaction the carrier-bound antibody is added and the enzyme activity measured.
USE/ADVANTAGE - Simple and accurate diagnosis of liver disorders such as hepatitis, hepatoma and liver calcification.
2/11

FS CPI EPI

FA AB; GI; DCN

MC CPI: B04-B02C2; B04-B04A6; B04-B04C5; B04-B04D4; B05-C08; B10-B01A; B11-C07A4; B11-C07A6; B12-K04A; D05-A02A; D05-H09; D05-H11; J04-B01
EPI: S03-E14H4

ABEQ EP 401370 B UPAB: 19950630
A method for the quantitation of the major central triple-helical region of human tye IV **collagen** by way of an ezyme immunoassay based on the **sandwich** technique using monoclonal antibodies against pepsin-solubilized human type IV **collagen**, in which (a) a sample solution prepared by diluting a sample to be assayed with a solution in a buffer of an enzyme-labelled antibody obtained by labelling with an enzyme a monoclonal antibody which reacts with the major central triple-helical region of pepsin-solubilised human type IV **collagen** and (b) an antibody-coated solid phase comprising a monoclonal antibody, bound to a solid phase carrier, which reacts only with pepsin-solubilised human type IV **collagen** are used, and which comprises mixing the antibody-coated solid phase (b) with the solution (a) to cause an immunoreaction to occur among the human type IV **collagen** present in the aid sample to be assayed, the said enzyme-labelled antibody and the antibody bound to the said solid phase carrier, isolating the solid phase

carrier and measuring the enzyme activity bound to the solid phase thereby to quantitate the major central triple-helical region of human type IV **collagen**.
Dwg.0/11

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FILE LAST UPDATED: 10 May 2006 (20060510/ED)

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L81 ANSWER 1 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:964715 HCAPLUS
DN 141:408325
ED Entered STN: 12 Nov 2004
TI **Sandwich** assays for **collagen** fragments
IN **Rosenquist, Christian; Qvist, Per; Christgau, Stephan**
PA Den.
SO U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 319,539.
CODEN: USXXCO
DT Patent
LA English
IC ICM G01N0033-53
ICS G01N0033-537; G01N0033-543
INCL 435007930
CC **9-2** (**Biochemical Methods**)
Section cross-reference(s): 14
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2004224375	A1	20041111	US 2003-730070	20031209 <--
WO 9826286	A2	19980618	WO 1997-EP6803	19971205 <--
WO 9826286	A3	19980813		

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG,

US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
US 2003148272 A1 20030807 US 1999-319539 19990608 <--
US 6660481 B2 20031209
PRAI GB 1996-25559 A 19961209 <--
GB 1997-5687 A 19970319 <--
WO 1997-EP6803 W 19971205 <--
US 1999-319539 A2 19990608

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2004224375	ICM	G01N0033-53
	ICS	G01N0033-537; G01N0033-543
	INCL	435007930
	IPCI	G01N0033-53 [ICM,7]; G01N0033-537 [ICS,7]; G01N0033-543 [ICS,7]
	IPCR	G01N0033-53 [I,A]; G01N0033-53 [I,C]; G01N0033-543 [I,A]; G01N0033-543 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.930
	ECLA	G01N033/53; G01N033/543; G01N033/68R
WO 9826286	IPCI	G01N0033-53 [ICM,6]; G01N0033-53 [ICS,6]
	IPCR	G01N0033-53 [I,A]; G01N0033-53 [I,C]; G01N0033-543 [I,A]; G01N0033-543 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	ECLA	G01N033/53; G01N033/543; G01N033/68R
US 2003148272	IPCI	C12Q0001-68 [ICM,7]; G01N0033-53 [ICS,7]; C12N0005-06 [ICS,7]; C12N0005-16 [ICS,7]
	IPCR	G01N0033-53 [I,A]; G01N0033-53 [I,C]; G01N0033-543 [I,A]; G01N0033-543 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/006.000
	ECLA	G01N033/53; G01N033/543; G01N033/68R

AB **Type II collagen** degradation is measurable using a **sandwich** immunoassay in which a single antibody specific for the amino acid sequence EKGPDP is used to form each side of antibody-**collagen** fragment-antibody **sandwich** complexes and the amount of said complexes is measured.

ST **sandwich** assay **collagen** fragment

IT Disease, animal
(arthropathy; **sandwich** assays for **collagen** fragments)

IT Joint, anatomical
(disease; **sandwich** assays for **collagen** fragments)

IT **Immunoassay**
(**enzyme-linked immunosorbent assay; sandwich** assays for **collagen** fragments)

IT Arthritis
Blood serum
Human
Immunoassay
Urine analysis
(**sandwich** assays for **collagen** fragments)

IT **Collagens, analysis**
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(**sandwich** assays for **collagen** fragments)

IT Antibodies and Immunoglobulins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**sandwich** assays for **collagen** fragments)
IT 252578-68-0
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(**collagen type II** amino acid fragment;
sandwich assays for **collagen** fragments)
IT 9003-99-0, Peroxidase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(horseradish; **sandwich** assays for **collagen** fragments)
IT 154093-32-0 154093-34-2 162929-64-8 284682-09-3 791064-80-7
791064-81-8 791313-09-2
RL: PRP (Properties)
(unclaimed sequence; **sandwich** assays for **collagen** fragments)

L81 ANSWER 2 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:639145 HCAPLUS
DN 133:234747
ED Entered STN: 14 Sep 2000
TI Assaying protein fragments in body fluids
IN **Qvist, Per**; Bonde, Martin
PA Osteometer Biotech A/s, Den.
SO U.S., 19 pp., Cont.-in-part of U.S. Ser. No. 913,806.
CODEN: USXXAM
DT Patent
LA English
IC ICM G01N0033-53
INCL 435007930
CC 9-10 (Biochemical Methods)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6117646	A	20000912	US 1998-53521	19980402 <--
	US 6107047	A	20000822	US 1997-913806	19970922 <--
	US 6323314	B1	20011127	US 2000-500811	20000210 <--
	US 6355442	B1	20020312	US 2000-548608	20000413 <--
	US 6342361	B1	20020129	US 2000-570573	20000512 <--
	US 6420125	B1	20020716	US 2000-641756	20000821 <--
	US 2003119058	A1	20030626	US 2002-58124	20020129 <--
PRAI	US 1997-913806	A2	19970922 <--		
	US 1994-187319	B1	19940121 <--		
	WO 1996-EP1228	W	19960321 <--		
	US 1997-963825	A1	19971104 <--		
	US 2000-570573	A3	20000512		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6117646	ICM	G01N0033-53
	INCL	435007930
	IPCI	G01N0033-53 [ICM,7]
	IPCR	G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.930; 435/007.100; 435/007.920; 435/007.940; 435/007.950; 436/518.000; 436/532.000; 530/323.000; 530/326.000; 530/327.000; 530/328.000; 530/329.000; 530/356.000; 530/388.100; 530/389.100
	ECLA	G01N033/68R
US 6107047	IPCI	G01N0033-53 [ICM,7]

	IPCR	C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.100; 435/007.920; 435/007.930; 435/007.940; 435/007.950; 435/331.000; 436/518.000; 436/532.000; 530/323.000; 530/326.000; 530/327.000; 530/328.000; 530/387.900; 530/388.100; 530/389.100
	ECLA	C07K016/18; G01N033/68R
US 6323314	IPCI	A61K0038-04 [ICM,7]
	IPCR	C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	530/328.000; 435/007.100; 530/326.000; 530/329.000; 530/356.000
	ECLA	C07K016/18; G01N033/68R
US 6355442	IPCI	G01N0033-53 [ICM,7]
	IPCR	C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.100; 435/007.930; 436/518.000; 436/531.000; 530/328.000; 530/356.000; 530/387.900; 530/388.100
	ECLA	C07K016/18; G01N033/68R
US 6342361	IPCI	G01N0033-53 [ICM,7]
	IPCR	C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.100; 435/007.920; 435/007.930; 435/975.000; 436/518.000; 436/531.000; 530/328.000; 530/329.000; 530/330.000; 530/331.000; 530/356.000; 530/387.900; 530/388.100
	ECLA	C07K016/18; G01N033/68R
US 6420125	IPCI	G01N0033-53
	IPCR	C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.100; 435/975.000; 530/328.000; 530/330.000; 530/388.100
	ECLA	C07K016/18; G01N033/68R
US 2003119058	IPCI	G01N0033-53 [ICM,7]; C07K0014-78 [ICS,7]; G01N0033-537 [ICS,7]; G01N0033-543 [ICS,7]; C07K0002-00 [ICS,7]; C07K0004-00 [ICS,7]; C07K0005-00 [ICS,7]; C07K0007-00 [ICS,7]; C07K0014-00 [ICS,7]; C07K0016-00 [ICS,7]; C07K0017-00 [ICS,7]; A61K0038-00 [ICS,7]; A61K0038-04 [ICS,7]; C07K0001-00 [ICS,7]; C09H0001-00 [ICS,7]; A61K0038-17 [ICS,7]; G01N0033-545 [ICS,7]
	IPCR	C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.100
	ECLA	C07K016/18; G01N033/68R

AB Type I **collagen** degradation products are assayed in a body fluid by conducting a competition immunoassay in which sample mols. compete with a peptide or isomerized peptide in binding to an immunol. binding partner for the peptide or isomerized peptide resp., wherein the peptide or isomerized peptide comprises the amino acids AHDGGR optionally extended at the N-terminal end with one or more amino acids that do not form a contiguous sequence with AHDGGR in type 1 **collagen**, and wherein D represents aspartic acid or β-aspartic acid. The peptide C(X)n AHDGGR, where X is any amino acid and n is preferably from 4 to 6 is provided for use in such assays and in diagnostic assay kits.

ST assaying protein fragment body fluid

IT Immunoassay
(Competition; assaying protein fragments in body fluids)

IT Antiserums
Body fluid
Diagnosis

Test kits
(assaying protein fragments in body fluids)
IT Amino acids, analysis
Peptides, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(assaying protein fragments in body fluids)
IT Proteins, general, analysis
RL: ANT (Analyte); ANST (Analytical study)
(fragments; assaying protein fragments in body fluids)
IT Antibodies
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(monoclonal; assaying protein fragments in body fluids)
IT **Collagens, analysis**
RL: ANT (Analyte); ANST (Analytical study)
(type I, degradation products.; assaying protein fragments in body fluids)
IT 16875-06-2 162929-64-8 187269-53-0 284682-09-3 284682-10-6
292139-65-2 292139-66-3
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(assaying protein fragments in body fluids)
IT 292840-87-0 292840-88-1 292840-89-2 292840-90-5 292840-92-7
RL: PRP (Properties)
(unclaimed protein sequence; assaying protein fragments in body fluids)
RE.CNT 125 THERE ARE 125 CITED REFERENCES AVAILABLE FOR THIS RECORD
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(12) Anon; WO 9008195 1990 HCAPLUS
(13) Anon; EP 0424428 1991 HCAPLUS
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(15) Anon; WO 9109114 1991 HCAPLUS
(16) Anon; EP 0465104 1992 HCAPLUS
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(18) Anon; EP 0505210 1992 HCAPLUS
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L81 ANSWER 3 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:550563 HCAPLUS
DN 129:172764
ED Entered STN: 31 Aug 1998
TI Immunoassay for **collagen type II** fragments
IN Hollander, Anthony Peter; Croucher, Lisa Jane
PA University of Sheffield, UK
SO PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N0033-577
ICS G01N0033-68; C07K0016-18; C07K0016-46; C12P0021-08; C07K0014-78; C12N0005-20
CC **9-10** (**Biochemical Methods**)
Section cross-reference(s): 13, 14, 15
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9835235	A1	19980813	WO 1998-GB304	19980130 <--

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

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            FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM,
            GA, GN, ML, MR, NE, SN, TD, TG
    AU 9859560          A1    19980826    AU 1998-59560          19980130 <--
    EP 960339           A1    19991201    EP 1998-902752         19980130 <--
        R:  CH, DE, FR, GB, IT, LI, SE
    JP 2001511253       T2    20010807    JP 1998-533982         19980130 <--
PRAI GB 1997-2252       A     19970206  <--
    WO 1998-GB304       W     19980130
CLASS
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
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 WO 9835235       ICM    G01N0033-577
                  ICS    G01N0033-68; C07K0016-18; C07K0016-46; C12P0021-08;
                         C07K0014-78; C12N0005-20
                  IPCI   G01N0033-577 [ICM,6]; G01N0033-68 [ICS,6]; C07K0016-18
                         [ICS,6]; C07K0016-46 [ICS,6]; C12P0021-08 [ICS,6];
                         C07K0014-78 [ICS,6]; C12N0005-20 [ICS,6]
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                         [I,A]; C07K0016-18 [I,C]
                  ECLA   C07K014/78; C07K016/18
 AU 9859560       IPCI   G01N0033-577 [ICM,6]; G01N0033-68 [ICS,6]; C07K0016-18
                         [ICS,6]; C07K0016-46 [ICS,6]; C12P0021-08 [ICS,6];
                         C07K0014-78 [ICS,6]; C12N0005-20 [ICS,6]
                  IPCR   C07K0014-435 [I,C]; C07K0014-78 [I,A]; C07K0016-18
                         [I,A]; C07K0016-18 [I,C]
 EP 960339        IPCI   G01N0033-577 [ICM,6]; G01N0033-68 [ICS,6]; C07K0016-18
                         [ICS,6]; C07K0016-46 [ICS,6]; C12P0021-08 [ICS,6];
                         C07K0014-78 [ICS,6]; C12N0005-20 [ICS,6]
                  IPCR   C07K0014-435 [I,C]; C07K0014-78 [I,A]; C07K0016-18
                         [I,A]; C07K0016-18 [I,C]
 JP 2001511253    IPCI   G01N0033-577 [ICM,7]; C07K0014-78 [ICS,7]; C07K0016-18
                         [ICS,7]; C07K0016-46 [ICS,7]; C12N0005-10 [ICS,7];
                         C12P0021-08 [ICS,7]; G01N0033-15 [ICS,7]; G01N0033-50
                         [ICS,7]; G01N0033-68 [ICS,7]
                  IPCR   C07K0014-435 [I,C]; C07K0014-78 [I,A]; C07K0016-18
                         [I,A]; C07K0016-18 [I,C]
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AB Provided are methods, kits and reagents for assaying for **collagen** fragments, and to therapeutic, prognostic and diagnostic methods based thereon. Antibodies and monoclonal antibodies to α-chain **type II collagen** peptides were prepared, characterized, and used in **sandwich ELISAs**.

ST immunoassay **collagen type II** fragment; monoclonal antibody **type II collagen** **ELISA**

IT Synovial fluid
(anal. of; immunoassay for **collagen type II** fragments)

IT Antibodies
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(bifunctional hetero-, to **collagen type II** fragments; immunoassay for **collagen type II** fragments)

IT Antibodies
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(biotinylated; immunoassay for **collagen type II** fragments)

IT Radioactive substances
(conjugates with antibodies; immunoassay for **collagen type II** fragments)

IT Enzymes, biological studies
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(conjugates, with antibodies; immunoassay for **collagen type II** fragments)

IT Avidins
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(conjugates, with enzymes; immunoassay for **collagen type II** fragments)

IT Cartilage
Cartilage
(degeneration, **type II** fragments, antibodies to; immunoassay for **collagen type II** fragments)

IT **Immunoassay**
(**enzyme-linked immunosorbent assay, sandwich**; immunoassay for **collagen type II** fragments)

IT Blood analysis
Diagnosis
Drug screening
Immunoassay
Urine analysis
(immunoassay for **collagen type II** fragments)

IT Immunoassay
(immunoblotting; immunoassay for **collagen type II** fragments)

IT Immunoassay
(immunohistochem., of osteoarthritic cartilage; immunoassay for **collagen type II** fragments)

IT Osteoarthritis
(immunostaining of cartilage of; immunoassay for **collagen type II** fragments)

IT Cartilage
(immunostaining of osteoarthritic; immunoassay for **collagen type II** fragments)

IT Antibodies
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(monoclonal, to **collagen type II** fragments; immunoassay for **collagen type II** fragments)

IT Protein sequences
(of synthetic peptide standard; immunoassay for **collagen type II** fragments)

IT Epitopes
(on **collagen type II** fragments, antibodies to; immunoassay for **collagen type II** fragments)

IT Antiarthritics
(screening for; immunoassay for **collagen type II** fragments)
IT Antibodies
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); PUR (Purification or recovery); RCT (Reactant); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(to **collagen type II** fragments; immunoassay for **collagen type II** fragments)
IT **Collagens, analysis**
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(**type II**; immunoassay for **collagen type II** fragments)
IT 211430-66-9P
RL: ARU (Analytical role, unclassified); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(amino acid sequence of, as synthetic peptide standard; immunoassay for **collagen type II** fragments)
IT 72040-63-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(antibody biotinylation with; immunoassay for **collagen type II** fragments)
IT 58-85-5DP, Biotin, antibody conjugates
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(immunoassay for **collagen type II** fragments)
IT 9001-78-9D, antibody conjugates 9003-99-0D, Peroxidase, antibody conjugates
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(immunoassay for **collagen type II** fragments)
IT 141907-41-7, Matrix metalloproteinase
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(inhibitors, screening for; immunoassay for **collagen type II** fragments)
IT 211370-80-8D, conjugates with keyhole limpet hemocyanin 211370-81-9D, conjugates with keyhole limpet hemocyanin 211370-82-0D, conjugates with keyhole limpet hemocyanin
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(peptide of **type II collagen** α-chain; immunoassay for **collagen type II** fragments)
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Morgan, K; IMMUNOLOGY 1992, V77(4), P609 HCAPLUS
(2) Rhode Island Hospital; WO 9418563 A 1994 HCAPLUS
(3) Shriners Hospitals For Crippled Children; WO 9414070 A 1994 HCAPLUS

L81 ANSWER 4 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN

AN **1998:406135** HCAPLUS
DN 129:78831
ED Entered STN: 02 Jul 1998
TI **Sandwich** immunoassays for **collagen** type I fragments
IN **Rosenquist, Christian; Qvist, Per**
PA Osteometer Biotech A/S, Den.; Rosenquist, Christian; Qvist, Per
SO PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N0033-53
ICS G01N0033-53
CC **9-10 (Biochemical Methods)**
Section cross-reference(s): 14, 15
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9826286	A2	19980618	WO 1997-EP6803	19971205 <--
	WO 9826286	A3	19980813		
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9857542	A1	19980703	AU 1998-57542	19971205 <--
	EP 944833	A2	19990929	EP 1997-953745	19971205 <--
	EP 944833	B1	20010627		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2001506000	T2	20010508	JP 1998-526186	19971205 <--
	AT 202632	E	20010715	AT 1997-953745	19971205 <--
	ES 2160985	T3	20011116	ES 1997-953745	19971205 <--
	US 2003148272	A1	20030807	US 1999-319539	19990608 <--
	US 6660481	B2	20031209		
	US 2004224375	A1	20041111	US 2003-730070	20031209 <--
PRAI	GB 1996-25559	A	19961209 <--		
	GB 1997-5687	A	19970319 <--		
	WO 1997-EP6803	W	19971205 <--		
	US 1999-319539	A2	19990608		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9826286	ICM	G01N0033-53
	ICS	G01N0033-53
	IPCI	G01N0033-53 [ICM,6]; G01N0033-53 [ICS,6]
	IPCR	G01N0033-53 [I,A]; G01N0033-53 [I,C]; G01N0033-543 [I,A]; G01N0033-543 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	ECLA	G01N033/53; G01N033/543; G01N033/68R
AU 9857542	IPCI	G01N0033-53 [ICM,6]
	IPCR	G01N0033-53 [I,A]; G01N0033-53 [I,C]; G01N0033-543 [I,A]; G01N0033-543 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
EP 944833	IPCI	G01N0033-53 [ICM,6]; G01N0033-543 [ICS,6]; G01N0033-68 [ICS,6]
	IPCR	G01N0033-53 [I,A]; G01N0033-53 [I,C]; G01N0033-543 [I,A]; G01N0033-543 [I,C]; G01N0033-68 [I,A];

		G01N0033-68 [I,C]
JP 2001506000	IPCI	G01N0033-53 [ICM,7]; G01N0033-543 [ICS,7]; C07K0016-18 [ICS,7]
AT 202632	IPCI	G01N0033-53 [ICM,7]; G01N0033-543 [ICS,7]; G01N0033-68 [ICS,7]
	IPCR	G01N0033-53 [I,A]; G01N0033-53 [I,C]; G01N0033-543 [I,A]; G01N0033-543 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
ES 2160985	IPCI	G01N0033-53 [ICM,7]; G01N0033-543 [ICS,7]; G01N0033-68 [ICS,7]
	IPCR	G01N0033-53 [I,A]; G01N0033-53 [I,C]; G01N0033-543 [I,A]; G01N0033-543 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
US 2003148272	IPCI	C12Q0001-68 [ICM,7]; G01N0033-53 [ICS,7]; C12N0005-06 [ICS,7]; C12N0005-16 [ICS,7]
	IPCR	G01N0033-53 [I,A]; G01N0033-53 [I,C]; G01N0033-543 [I,A]; G01N0033-543 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/006.000
	ECLA	G01N033/53; G01N033/543; G01N033/68R
US 2004224375	IPCI	G01N0033-53 [ICM,7]; G01N0033-537 [ICS,7]; G01N0033-543 [ICS,7]
	IPCR	G01N0033-53 [I,A]; G01N0033-53 [I,C]; G01N0033-543 [I,A]; G01N0033-543 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.930
	ECLA	G01N033/53; G01N033/543; G01N033/68R

AB **Sandwich** assays for **collagen** degradation products are conducted using an antibody of the same specificity on both sides of the **sandwich** or using a first antibody reactive with an epitope contained in the sequence EKAHDGGR and a second antibody which may be the same or different. New **collagen** fragments were discovered in human serum. Two monoclonal antibodies (MAbs) were prepared by the hybridoma method that were specific for EKAH-βD-GGR. One of the MAbs was biotinylated and the other was coupled to horseradish peroxidase. The labeled MAbs were used in a **sandwich** assay to test urine samples from post-menopausal women taken before and after nine months of treatment with bisphosphonate.

ST **sandwich** immunoassay **collagen** type I; monoclonal antibody **collagen** peptide

IT Blood serum
Urine
(**collagen** fragments in human; **sandwich** immunoassays for **collagen** type I fragments)

IT Thyroglobulin
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(conjugates, with **collagen** fragment; **sandwich** immunoassays for **collagen** type I fragments)

IT **Immunoassay**
(**enzyme-linked immunosorbent assay, sandwich; sandwich** immunoassays for **collagen** type I fragments)

IT Antigens
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(in human blood and urine reactive with monoclonal antibody to **collagen** epitope; **sandwich** immunoassays for **collagen** type I fragments)

IT Antibodies
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(monoclonal, biotinylated, to **collagen** fragment; **sandwich** immunoassays for **collagen** type I fragments)

IT Antibodies
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(monoclonal, labeled, to **collagen** fragment; **sandwich** immunoassays for **collagen** type I fragments)

IT Antibodies
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(monoclonal; **sandwich** immunoassays for **collagen** type I fragments)

IT Bone, disease
(osteopenia, bone loss; **sandwich** immunoassays for **collagen** type I fragments)

IT Menopause
(postmenopause; **sandwich** immunoassays for **collagen** type I fragments)

IT Immunoassay
(radioimmunoassay, **sandwich**; **sandwich** immunoassays for **collagen** type I fragments)

IT Bone
(resorption; **sandwich** immunoassays for **collagen** type I fragments)

IT Hybridoma
Urine analysis
(**sandwich** immunoassays for **collagen** type I fragments)

IT Antibodies
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(**sandwich** immunoassays for **collagen** type I fragments)

IT Immunoassay
(**sandwich**; **sandwich** immunoassays for **collagen** type I fragments)

IT **Collagens, analysis**
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(type I; **sandwich** immunoassays for **collagen** type I fragments)

IT 162929-64-8 162929-64-8D, derivs. 187269-53-0 209189-46-8
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(**collagen** epitope; **sandwich** immunoassays for **collagen** type I fragments)

IT 13598-36-2D, Phosphonic acid, alkylidenebis- derivs.
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(post-menopausal women treated with; **sandwich** immunoassays for **collagen** type I fragments)

IT 9003-99-0DP, Peroxidase, conjugates with monoclonal antibody to **collagen** fragment
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(**sandwich** immunoassays for **collagen** type I fragments)

IT 9013-20-1D, Streptavidin, immobilized
RL: ARU (Analytical role, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**sandwich** immunoassays for **collagen** type I fragments)

IT 187269-53-0DP, conjugates with thyroglobulin
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(**sandwich** immunoassays for **collagen** type I fragments)

IT 72040-63-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(**sandwich** immunoassays for **collagen** type I fragments)

L81 ANSWER 5 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN **1998:309527** HCAPLUS
DN 129:147865
ED Entered STN: 28 May 1998
TI Establishment of **sandwich ELISA** for determination of serum human type IV **collagen** and its preliminary application
AU Shen, Yi; Fan, Weike
CS Department of Pathophysiology, Chongqing University of Medical Sciences, Chungking, 400046, Peop. Rep. China
SO Mianyixue Zazhi (**1997**), 13(4), 266-268
CODEN: MIZAED; ISSN: 1000-8861
PB Mianyixue Zazhi Bianjibu
DT Journal
LA Chinese
CC 15-3 (Immunochemistry)
Section cross-reference(s): **9**, 14
AB Monoclonal antibody and polyclonal antibody to human Type IV **collagen** were produced by hybridoma technique and conventional immunization. A **sandwich** type of **ELISA** for serum human type IV **collagen** was established. The sensitivity of the immunoassay was 16 ng/mL. The CV value of intra-assays was 10.02%, of inter-assays was 9.14%. The accuracy was 92.68%. No cross reaction was found with Type I **collagen**. The concns. of serum Type IV **collagen** from 50 adult healthy people were 31.06 Φ+ 18.81 ng ml-1 with a range of 5 - 73 ng ml-1. Serum concentration of type IV **collagen** from patients with liver cirrhosis and cancer was higher than that from the healthy controls.
ST type IV **collagen** monoclonal polyclonal antibody; liver cancer cirrhosis antibody **collagen** IV
IT **Immunoassay**
(**enzyme-linked immunosorbent assay**; preparation of antibodies for **sandwich ELISA** determination of serum human type IV **collagen** and for diagnosis of liver cancer and cirrhosis)

IT Liver, disease
(fibrosis; preparation of antibodies for **sandwich ELISA** determination of serum human type IV **collagen** and for diagnosis of liver cancer and cirrhosis)
IT Antibodies
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(monoclonal; preparation of antibodies for **sandwich ELISA** determination of serum human type IV **collagen** and for diagnosis of liver cancer and cirrhosis)
IT Blood serum
Cirrhosis
Liver, neoplasm
(preparation of antibodies for **sandwich ELISA** determination of serum human type IV **collagen** and for diagnosis of liver cancer and cirrhosis)
IT Antibodies
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of antibodies for **sandwich ELISA** determination of serum human type IV **collagen** and for diagnosis of liver cancer and cirrhosis)
IT **Collagens, biological studies**
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(type IV; preparation of antibodies for **sandwich ELISA** determination of serum human type IV **collagen** and for diagnosis of liver cancer and cirrhosis)

L81 ANSWER 6 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:186591 HCAPLUS
DN 128:241535
ED Entered STN: 30 Mar 1998
TI Assay for detecting **collagen** degradation
IN Te Koppele, Johannes Maria; Beekman, Bob
PA Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Neth.
SO Eur. Pat. Appl., 31 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM G01N0033-68
CC **9-10** (**Biochemical Methods**)
Section cross-reference(s): 14
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 829724	A1	19980318	EP 1996-202596	19960917 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 10185915	A2	19980714	JP 1997-268200	19970916 <--
	US 6010863	A	20000104	US 1997-931820	19970916 <--
PRAI	EP 1996-202596	A	19960917 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 829724	ICM	G01N0033-68
	IPCI	G01N0033-68 [ICM,6]
	IPCR	G01N0033-68 [I,A]; G01N0033-68 [I,C]
	ECLA	G01N033/68R

JP 10185915 IPCI G01N0033-53 [ICM,6]
IPCR G01N0033-68 [I,A]; G01N0033-68 [I,C]
US 6010863 IPCI G01N0033-53 [ICM,6]
IPCR G01N0033-68 [I,A]; G01N0033-68 [I,C]
NCL 435/007.100; 435/007.900; 435/007.920; 435/007.940; 435/975.000; 436/518.000; 436/531.000
ECLA G01N033/68R

AB A **sandwich**-type immunoassay for the detection and /or quantitation of **collagen** degradation products in biol. samples such as blood, serum, plasma, sputum and cell cultures. The immunoassay uses a first antibody directed at an epitope present on a **collagen** mol. at a distance of up to 165 amino acids from a **collagen** telopeptide crosslink site, and a second antibody directed at another epitope of the crosslinked **collagen** mol.

ST **collagen** degrdn product **sandwich** immunoassay sequence

IT Antibodies
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(**collagen**-specific; immunoassay for detecting **collagen** degradation)

IT Bone
(degradation products; immunoassay for detecting **collagen** degradation)

IT **Collagens, biological studies**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(degradation products; immunoassay for detecting **collagen** degradation)

IT Antibodies
RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(immobilized; immunoassay for detecting **collagen** degradation)

IT Animal tissue culture
Blood
Blood analysis
Blood serum
Protein sequences
Sputum
Test kits
(immunoassay for detecting **collagen** degradation)

IT Immunoassay
(**sandwich**; immunoassay for detecting **collagen** degradation)

IT **Collagens, analysis**
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(type I; immunoassay for detecting **collagen** degradation)

IT **Collagens, analysis**
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(**type II**; immunoassay for detecting **collagen** degradation)

IT **Collagens, analysis**
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)

(type III; immunoassay for detecting **collagen** degradation)
IT **Collagens, analysis**
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(type IV; immunoassay for detecting **collagen** degradation)
IT **Collagens, analysis**
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(type IX; immunoassay for detecting **collagen** degradation)
IT **Collagens, analysis**
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(type V; immunoassay for detecting **collagen** degradation)
IT **Collagens, analysis**
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(type VI; immunoassay for detecting **collagen** degradation)
IT **Collagens, analysis**
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(type X; immunoassay for detecting **collagen** degradation)
IT **Collagens, analysis**
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(type XI; immunoassay for detecting **collagen** degradation)
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Farmos Oy; WO 8808980 A 1988 HCAPLUS
(2) Fuji Yakuhin Kogyo Kk; EP 0401370 A 1990 HCAPLUS
(3) Orion Yhtymae Oy; EP 0505210 A 1992 HCAPLUS
(4) Osteometer A S; WO 9508115 A 1995 HCAPLUS

L81 ANSWER 7 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:151309 HCAPLUS
DN 128:164717
ED Entered STN: 13 Mar 1998
TI Assaying D-amino acids in body fluids
IN Fledelius, Christian; Cloos, Paul; **Qvist, Per**
PA Osteometer Biotech A/S, Den.; Fledelius, Christian; Cloos, Paul; Qvist, Per
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N0033-68
ICS C07K0016-18; C12N0005-12; G01N0033-577; C07K0014-78
CC 9-10 (Biochemical Methods)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9808098	A2	19980226	WO 1997-EP4372	19970812 <--

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL,

PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US,
UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA,
GN, ML, MR, NE, SN, TD, TG

AU	9739435	A1	19980306	AU 1997-39435	19970812 <--
EP	922228	A2	19990616	EP 1997-936704	19970812 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP	2000516721	T2	20001212	JP 1998-510349	19970812 <--
US	6300083	B1	20011009	US 2000-242721	20000110 <--
PRAI GB	1996-17616	A	19960822 <--		
WO	1997-EP4372	W	19970812 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9808098	ICM	G01N0033-68
	ICS	C07K0016-18; C12N0005-12; G01N0033-577; C07K0014-78
	IPCI	G01N0033-68 [ICM,6]; C07K0016-18 [ICS,6]; C12N0005-12 [ICS,6]; G01N0033-577 [ICS,6]; C07K0014-78 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	ECLA	C07K014/78; C07K016/18; G01N033/68R
AU 9739435	IPCI	G01N0033-68 [ICM,6]; C07K0016-18 [ICS,6]; C12N0005-12 [ICS,6]; G01N0033-577 [ICS,6]; C07K0014-78 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
EP 922228	IPCI	G01N0033-68 [ICM,6]; C07K0016-18 [ICS,6]; C12N0005-12 [ICS,6]; G01N0033-577 [ICS,6]; C07K0014-78 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
JP 2000516721	IPCI	G01N0033-53 [ICM,7]; G01N0033-68 [ICS,7]
US 6300083	IPCI	G01N0033-53 [ICM,7]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.100; 435/007.920; 435/007.930; 435/007.940; 435/007.950; 435/331.000; 436/518.000; 436/532.000; 530/323.000; 530/326.000; 530/327.000; 530/328.000; 530/329.000; 530/356.000; 530/388.100; 530/389.100
	ECLA	C07K014/78; C07K016/18; G01N033/68R

AB The rate of degradation in vivo of a body protein is determined by measuring the amount of a D-amino acid containing fragment of the protein in a body fluid using an antibody capable of discriminating between the D-amino acid containing fragment and its L-amino acid containing analog.

ST assaying amino acid body fluid

IT Body fluid
Immunoassay
Protein degradation
Urine analysis
(assaying D-amino acids in body fluids)

IT **Collagens, analysis**
Enzymes, analysis
Peptides, analysis
RL: ANT (Analyte); ANST (Analytical study)
(assaying D-amino acids in body fluids)

IT Antibodies
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(assaying D-amino acids in body fluids)
IT Amino acids, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(assaying D-amino acids in body fluids)
IT **Immunoassay**
(**enzyme-linked immunosorbent assay**; assaying D-amino acids in body fluids)
IT Washing
(solution; assaying D-amino acids in body fluids)
IT Amino acids, analysis
RL: ANT (Analyte); ANST (Analytical study)
(D-; assaying D-amino acids in body fluids)
IT 1783-96-6, D-Aspartic acid
RL: ANT (Analyte); ANST (Analytical study)
(assaying D-amino acids in body fluids)
IT 56-40-6, Glycine, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(assaying D-amino acids in body fluids)

L81 ANSWER 8 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:464042 HCAPLUS
DN 127:146712
ED Entered STN: 24 Jul 1997
TI Measurement of bone degradation products in serum using antibodies reactive with an isomerized form of an 8 amino acid sequence of the C-telopeptide of type I **collagen**
AU Bonde, Martin; Garnero, Patrick; Fledelius, Christian; **Qvist, Per**; Delmas, Pierre D.; Christiansen, Claus
CS Osteometer BioTech A/S, Herlev, Den.
SO Journal of Bone and Mineral Research (**1997**), 12(7), 1028-1034
CODEN: JBMREJ; ISSN: 0884-0431
PB Blackwell
DT Journal
LA English
CC 9-10 (Biochemical Methods)
Section cross-reference(s): 6, 13, 14
AB An **ELISA** for measuring type I **collagen** degradation products in serum (S-**ELISA**) was developed. The assay uses a high affinity polyclonal antibody which reacts with an isomerized form of an 8 amino acid sequence of the C-telopeptides of type I **collagen** (EKAHD-β-GGR). Cross-reactivity to a nonisomerized synthetic peptide form of the 8 amino acid sequence is less than 0.2%. Values obtained in a group of premenopausal women (age, 33.3±3.11 yr) were 69±24 ng/mL. In a group of early postmenopausal women (age, 51.8±1.88 yr) values obtained were 125±43 ng/mL, which represents an increase of 81%. Values found in untreated patients with Paget's disease were 234±95 ng/mL, and for primary hyperparathyroidism we found 335±82 ng/mL. Intervenous administration of a bisphosphonate (Pamidronate) to Paget's disease patients for 3 days was reflected in the S-**ELISA** by a decrease in the values of 55% when compared with values before treatment. Following treatment with another bisphosphonate (Alendronate) for 6 mo, values were decreased to 48±19 ng/mL, which corresponds to a 62% decrease. Clin. results presented in this context support that the assay is a sensitive and specific index of bone resorption. It may, therefore, prove useful in the follow up of treatment of patients with metabolic bone diseases and in the clin. investigation of osteoporosis.
ST bone degeneration **collagen** telopeptide **ELISA**
IT Peptides, analysis

RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(C-telopeptides; measurement of bone degradation products in serum using **ELISA**)

IT Bone, disease
(Paget's; measurement of bone degradation products in serum using **ELISA**)

IT Bone
(degradation; measurement of bone degradation products in serum using **ELISA**)

IT **Immunoassay**
(**enzyme-linked immunosorbent assay**; measurement of bone degradation products in serum using **ELISA**)

IT Blood analysis
(measurement of bone degradation products in serum using **ELISA**)

IT Hyperparathyroidism
(primary; measurement of bone degradation products in serum using **ELISA**)

IT Bone
(resorption; measurement of bone degradation products in serum using **ELISA**)

IT **Collagens, biological studies**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(type I; measurement of bone degradation products in serum using **ELISA**)

IT 187269-53-0
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(measurement of bone degradation products in serum using **ELISA**)

IT 40391-99-9 66376-36-1, Alendronate
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(measurement of bone degradation products in serum using **ELISA**)

L81 ANSWER 9 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:257774 HCAPLUS
DN 126:328573
ED Entered STN: 21 Apr 1997
TI Characterization of urinary degradation products derived from type I **collagen**
AU Fledelius, Christian; Johnsen, Anders H.; Cloos, Paul A. C.; Bonde, Martin; **Qvist, Per**
CS Osteometer BioTech A/S, Herlev, DK-2730, Den.
SO Journal of Biological Chemistry (**1997**), 272(15), 9755-9763
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English
CC 13-3 (Mammalian Biochemistry)
Section cross-reference(s): 6
AB The heterogeneity of urinary degradation products of C-terminal telopeptides derived from the α1 chain of human type I **collagen** was investigated and characterized. The urinary fragments characterized in this study consisted of two cross-linked (X) amino acid sequences derived from the C-terminal telopeptide (α1) of type I **collagen**. Fragments containing the sequence EXAH-DGGR, with a DG site being either nonisomerized (Asp-Gly) or β-isomerized (βAsp-Gly), were

identified. Pyridinoline was detected among the pyridinium crosslinks, but there was a dominance of deoxypyridinoline and a cross-link containing pyridinoline having a mol. weight identical with that of galactosyl pyridinoline. A nonfluorescent cross-link was also found. The concentration of fragments derived from the C-terminal telopeptide region of type I **collagen** containing the sequence Asp-Gly (αCTX) and/or βAsp-Gly (βCTX) was measured by enzyme-linked immunosorbent assays in urine and in collagenase digests of trabecular and cortical bone of young and old origin. It was shown that the urinary ratio between such fragments, αCTX/βCTX, was higher in children compared with adults and that the ratio decreased with increasing age of bone. The results indicated that the C-terminal telopeptide fragments derived from type I **collagen** excreted into urine originated mainly from bone. In conclusion, it is demonstrated for the first time that the C-terminal telopeptide α1 chain of type I **collagen** contains an Asp-Gly site prone to undergo β-isomerization and that the degree of β-isomerization of this linkage apparently increases with increasing age of bone. These findings indicate that the ratio αCTX/βCTX might be clin. important in diagnosing metabolic bone diseases.

ST type I **collagen** degrdn product age; urine **collagen** degrdn product age; telopeptide type I **collagen** degrdn age

IT Urine
(characterization of urinary degradation products derived from type I **collagen**)

IT Aging, animal
Development, mammalian postnatal
(characterization of urinary degradation products derived from type I **collagen** of young and old human bones)

IT Bone
(cortical; characterization of urinary degradation products derived from type I **collagen** of young and old human bones)

IT Bone
(trabecula; characterization of urinary degradation products derived from type I **collagen** of young and old human bones)

IT Peptides, biological studies
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(type I **collagen** C-terminal telopeptides; characterization of urinary degradation products derived from type I **collagen** of young and old human bones)

IT **Collagens, biological studies**
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(type I, C-terminal telopeptides; characterization of urinary degradation products derived from type I **collagen** of young and old human bones)

IT 3790-51-0 3790-52-1 63800-01-1, Hydroxylysylpyridinoline 87672-07-9
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(characterization of urinary degradation products derived from type I **collagen** of young and old human bones)

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L81 ANSWER 10 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:203828 HCAPLUS
DN 126:183499
ED Entered STN: 28 Mar 1997
TI Determination of **type II-collagen** telopeptide for bone disease diagnosis
IN Nakamoto, Tadakatsu; Pponda, Hitomi; Kobayashi, Shinji; Hosoda, Kenji
PA Teijin Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G01N0033-53
ICS C07K0016-18; C12N0015-02; C12P0021-08; G01N0033-531; G01N0033-535; G01N0033-577; C12R0001-91
CC **9-2 (Biochemical Methods)**
Section cross-reference(s): 14
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09021803	A2	19970121	JP 1995-172196	19950707 <--
PRAI	JP 1995-172196		19950707 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 09021803	ICM	G01N0033-53
	ICS	C07K0016-18; C12N0015-02; C12P0021-08; G01N0033-531; G01N0033-535; G01N0033-577; C12R0001-91
	IPCI	G01N0033-53 [ICM,6]; C07K0016-18 [ICS,6]; C12N0015-02 [ICS,6]; C12P0021-08 [ICS,6]; G01N0033-531 [ICS,6]; G01N0033-535 [ICS,6]; G01N0033-577 [ICS,6]; C12R0001-91 [ICS,6]

AB A simple and accurate method for detecting the **type II -collagen** telopeptide in mammalian body fluids is described using monoclonal antibodies in the so-called **sandwich** method for the diagnosis of metabolism disorders of the cartilage. A kit for the determination method is presented.

ST **collagen** telopeptide detn body fluid diagnosis

IT Bone, disease
(determination of **type II-collagen** telopeptides for bone disease diagnosis)

IT Antibodies
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(monoclonal; in determination of **type II-collagen** telopeptides for bone disease diagnosis)

IT Peptides, analysis
RL: ANT (Analyte); ANST (Analytical study)
(telo-; determination of **type II-collagen** telopeptides for bone disease diagnosis)

IT **Collagens, analysis**
RL: ANT (Analyte); ANST (Analytical study)
(**type II**; determination of **type II-collagen** telopeptide for bone disease diagnosis)

L81 ANSWER 11 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:81688 HCAPLUS
DN 126:168697
ED Entered STN: 05 Feb 1997
TI Isomerized molecules in serum derived from bone resorption
AU Cloos, P. A. C.; Bonde, M.; Fledelius, C.; **Christgau, S.**; Christiansen, C.
CS Osteometer BioTech A/S, Herlev, DK-2730, Den.
SO International Congress Series (**1996**), 1118(Osteoporosis 1996), 227-231
CODEN: EXMDA4; ISSN: 0531-5131
PB Elsevier
DT Journal
LA English
CC 9-10 (Biochemical Methods)
Section cross-reference(s): 1, 13, 14
AB We developed 2 serum-based **ELISAs**, CrossLaps serum **ELISA** (β-CLS) and α-CrossLaps serum **ELISA** (α-CLS), measuring the isopeptide and normal peptide form, resp., of the **collagen** type I specific sequence EKAHDGGR. In the isomerized form, the aspartyl residue (D) is linked to the glycine residue (G) via the β-carboxyl group of the side chain rather than through the α-carboxyl group. The aim of the present study was to investigate

the clin. importance of isomerization for the assessment of bone resorption in serum. The effect of bisphosphonate therapy on postmenopausal women was evaluated with the two **ELISAs**. While serum samples from all women treated with bisphosphonate displayed significant decreases after 9 mo of therapy when measured in the β-CLS assay (mean decrease ± SEM, 56.8±4.0%), α-CLS values only decreased slightly (19.7±6.3%). It is suggested that isopeptides in serum recognized by the β-CLS assay are derived from bone resorption, whereas the corresponding nonisomerized peptides (measured by α-CLS) also reflect metabolism of nonskeletal tissue.

ST bone resorption serum peptide isomer **ELISA**; enzyme immunoassay peptide bone resorption; **collagen** peptide isomer **ELISA** bone resorption; postmenopause bisphosphonate therapy serum **collagen** peptide

IT Blood analysis
Urine analysis
(**ELISA** of isomerized mols. in serum derived from bone resorption)

IT Menopause
(postmenopause; **ELISA** of isomerized mols. in serum derived from bone resorption)

IT Bone
(resorption; **ELISA** of isomerized mols. in serum derived from bone resorption)

IT **Collagens, analysis**
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(type I; **ELISA** of isomerized mols. in serum derived from bone resorption)

IT 162929-64-8 187269-53-0
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**ELISA** of isomerized mols. in serum derived from bone resorption)

IT 13598-36-2D, Phosphonic acid, alkylidenebis- derivs.
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**ELISA** of isomerized mols. in serum derived from bone resorption)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L81 ANSWER 12 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:623921 HCAPLUS
DN 125:296532
ED Entered STN: 21 Oct 1996
TI Coated-tube radioimmunoassay for C-telopeptides of type I **collagen** to assess bone resorption
AU Bonde, Martin; Fledelius, Christian; **Qvist, Per**; Christiansen,

Claus
CS Osteometer BioTech A/S, Herlev, DK-2730, Den.
SO Clinical Chemistry (Washington, D. C.) (**1996**), 42(10), 1639-1644
CODEN: CLCHAU; ISSN: 0009-9147
PB American Association for Clinical Chemistry
DT Journal
LA English
CC 9-10 (Biochemical Methods)
AB We present a coated-tube RIA that is useful for assessment of bone resorption. The assay uses a monoclonal antibody raised against a linear 8-amino-acid sequence (EKAH-DGGR) derived from the C-telopeptides of type I **collagen**. Within-run and total CVs were 4.4% and 5.3-6.2%, resp., at concns. of 1-7 mg/L (n = 4-20). Anal. recovery was 98% ± 8% and dilution 97% ± 7%. Values obtained in a group of 36 premenopausal women were 227 ± 89.6 mg/mol creatinine. In a group of 141 postmenopausal women, the values obtained were 429 ± 225 mg/mol creatinine, a highly significant increase of 89% (P <0.001) over the premenopausal value. In a double-blind placebo-controlled clin. study of these postmenopausal women receiving five different doses of a bisphosphonate, a significant decrease of RIA-measured C-telopeptide values was seen in all bisphosphonate-treated groups, after just 3 mo. Values in urine samples from postmenopausal women assayed with the RIA (y) and the CrossLapsTM **ELISA** (x) agreed well: slope = 0.98 (95% confidence interval, 9.94-1.01), intercept = 0.34(0.25-0.43) mg/L, and Sy|x = 0.93 mg/L (n = 678). We conclude that this RIA represents a valuable tool for assessing bone resorption.
ST bone resorption RIA; immunoassay peptide **collagen**
IT Bone
Urine analysis
(coated-tube RIA for C-telopeptides of type I **collagen** to assess bone resorption)
IT Peptides, analysis
RL: ANT (Analyte); ANST (Analytical study)
(coated-tube RIA for C-telopeptides of type I **collagen** to assess bone resorption)
IT Antibodies
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(monoclonal, coated-tube RIA for C-telopeptides of type I **collagen** to assess bone resorption)
IT **Collagens, biological studies**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(type I, coated-tube RIA for C-telopeptides of type I **collagen** to assess bone resorption)

L81 ANSWER 13 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:359859 HCAPLUS
DN 125:29628
ED Entered STN: 21 Jun 1996
TI Estimation of the fragmentation pattern of **collagen** in body fluids and the diagnosis of disorders associated with the metabolism of **collagen**
IN Bonde, Martin; **Qvist, Per**
PA Osteometer Bio Tech A/s, Den.
SO PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N0033-68
ICS C07K0007-06
CC 9-16 (Biochemical Methods)

Section cross-reference(s): 14

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9612193	A1	19960425	WO 1995-EP4055	19951016 <--
	W: AL, AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ				
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9537462	A1	19960506	AU 1995-37462	19951016 <--
	EP 787301	A1	19970806	EP 1995-935451	19951016 <--
	EP 787301	B1	20010214		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 10507266	T2	19980714	JP 1995-512947	19951016 <--
	AT 199185	E	20010215	AT 1995-935451	19951016 <--
	ES 2154739	T3	20010416	ES 1995-935451	19951016 <--
	WO 9630765	A1	19961003	WO 1996-EP1228	19960321 <--
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN				
	AU 9651468	A1	19961016	AU 1996-51468	19960321 <--
	AU 712375	B2	19991104		
	EP 820598	A1	19980128	EP 1996-908100	19960321 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	CN 1185209	A	19980617	CN 1996-194134	19960321 <--
	BR 9607854	A	19980630	BR 1996-7854	19960321 <--
	JP 11502622	T2	19990302	JP 1996-528893	19960321 <--
	US 6210902	B1	20010403	US 1997-817397	19970611 <--
	US 6110689	A	20000829	US 1997-963825	19971104 <--
	US 6323314	B1	20011127	US 2000-500811	20000210 <--
	US 6355442	B1	20020312	US 2000-548608	20000413 <--
	US 6342361	B1	20020129	US 2000-570573	20000512 <--
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PRAI	DK 1994-1194	A	19941017 <--		
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	WO 1995-EP4055	W	19951016 <--		
	WO 1996-EP1228	W	19960321 <--		
	US 1997-817397	A1	19970611 <--		
	US 1997-963825	A1	19971104 <--		
	US 2000-570573	A3	20000512		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9612193	ICM	G01N0033-68
	ICS	C07K0007-06
	IPCI	G01N0033-68 [ICM,6]; C07K0007-06 [ICS,6]; C07K0007-00 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	ECLA	C07K014/78; C07K016/18; G01N033/68R

AU 9537462	IPCI	G01N0033-68 [ICM,6]; C07K0007-06 [ICS,6]; C07K0007-00 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
EP 787301	IPCI	G01N0033-68 [ICM,6]; C07K0007-06 [ICS,6]; C07K0007-00 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
JP 10507266	IPCI	G01N0033-53 [ICM,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
AT 199185	IPCI	G01N0033-68 [ICM,7]; C07K0007-06 [ICS,7]; C07K0007-00 [ICS,7]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
ES 2154739	IPCI	G01N0033-68 [ICM,7]; C07K0007-06 [ICS,7]; C07K0007-00 [ICS,7]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
WO 9630765	IPCI	G01N0033-68 [ICM,6]; C07K0007-06 [ICS,6]; C07K0007-00 [ICS,6]; C07K0014-78 [ICS,6]; C07K0014-435 [ICS,6]; C07K0016-18 [ICS,6]; C12N0005-20 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	ECLA	C07K014/78; G01N033/68R
AU 9651468	IPCI	G01N0033-68 [ICM,6]; C07K0007-06 [ICS,6]; C07K0007-00 [ICS,6]; C07K0014-78 [ICS,6]; C07K0014-435 [ICS,6]; C07K0016-18 [ICS,6]; C12N0005-20 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
EP 820598	IPCI	G01N0033-68 [ICM,6]; C07K0007-06 [ICS,6]; C07K0007-00 [ICS,6]; C07K0014-78 [ICS,6]; C07K0014-435 [ICS,6]; C07K0016-18 [ICS,6]; C12N0005-20 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
CN 1185209	IPCI	G01N0033-68 [ICM,6]; C07K0007-06 [ICS,6]; C07K0007-00 [ICS,6]; C07K0014-78 [ICS,6]; C07K0014-435 [ICS,6]; C07K0016-18 [ICS,6]; C12N0005-20 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
BR 9607854	IPCI	G01N0033-68 [ICM,6]; C07K0007-06 [ICS,6]; C07K0007-00 [ICS,6]; C07K0014-78 [ICS,6]; C07K0014-435 [ICS,6]; C07K0016-18 [ICS,6]; C12N0005-20 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
JP 11502622	IPCI	G01N0033-68 [ICM,6]; C07K0007-06 [ICS,6]; C07K0007-00 [ICS,6]; C07K0014-78 [ICS,6]; C07K0014-435 [ICS,6]; C07K0016-18 [ICS,6]; G01N0033-53 [ICS,6]; G01N0033-577 [ICS,6]; C12N0005-06 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
US 6210902	IPCI	G01N0033-53
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.100; 435/007.920; 435/007.930; 435/007.940; 435/007.950; 436/518.000; 436/532.000; 530/356.000; 530/388.100; 530/389.100
	ECLA	C07K014/78; G01N033/68R
US 6110689	IPCI	G01N0033-53 [ICM,7]
	IPCR	C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68

		[I,A]; G01N0033-68 [I,C]
	NCL	435/007.100; 435/007.930; 435/007.940; 435/070.210; 435/331.000; 435/975.000; 436/518.000; 436/536.000; 436/548.000; 436/815.000; 530/300.000; 530/323.000; 530/328.000; 530/387.900; 530/388.100; 530/391.100; 530/391.300
	ECLA	C07K016/18; G01N033/68R
US 6323314	IPCI	A61K0038-04 [ICM,7]
	IPCR	C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	530/328.000; 435/007.100; 530/326.000; 530/329.000; 530/356.000
	ECLA	C07K016/18; G01N033/68R
US 6355442	IPCI	G01N0033-53 [ICM,7]
	IPCR	C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.100; 435/007.930; 436/518.000; 436/531.000; 530/328.000; 530/356.000; 530/387.900; 530/388.100
	ECLA	C07K016/18; G01N033/68R
US 6342361	IPCI	G01N0033-53 [ICM,7]
	IPCR	C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.100; 435/007.920; 435/007.930; 435/975.000; 436/518.000; 436/531.000; 530/328.000; 530/329.000; 530/330.000; 530/331.000; 530/356.000; 530/387.900; 530/388.100
	ECLA	C07K016/18; G01N033/68R
US 6372442	IPCI	G01N0033-53
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.100; 435/007.920; 530/329.000; 530/330.000; 530/331.000; 530/356.000; 530/388.100; 530/389.100
	ECLA	C07K014/78; G01N033/68R
US 2003119058	IPCI	G01N0033-53 [ICM,7]; C07K0014-78 [ICS,7]; C07K0014-435 [ICS,7]; G01N0033-537 [ICS,7]; G01N0033-536 [ICS,7]; G01N0033-543 [ICS,7]; C07K0002-00 [ICS,7]; C07K0004-00 [ICS,7]; C07K0005-00 [ICS,7]; C07K0007-00 [ICS,7]; C07K0014-00 [ICS,7]; C07K0016-00 [ICS,7]; C07K0017-00 [ICS,7]; A61K0038-00 [ICS,7]; A61K0038-04 [ICS,7]; C07K0001-00 [ICS,7]; C09H0001-00 [ICS,7]; A61K0038-17 [ICS,7]; G01N0033-545 [ICS,7]; G01N0033-544 [ICS,7]
	IPCR	C07K0016-18 [I,A]; C07K0016-18 [I,C]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.100
	ECLA	C07K016/18; G01N033/68R

AB The fragmentation pattern of **collagen**, especially of type 1, as reflected in breakdown products of **collagen** in a body fluid such as serum or urine is estimated by measuring the levels of such breakdown products using two or more distinct immunoassays. The results may be combined into a numerical index diagnostic of one or more pathol. conditions or patient types.

ST **collagen** body fluid diagnosis disorder metab

IT Blood analysis
Body fluid
Diagnosis
Immunoassay
Urine analysis
(estimation of the fragmentation pattern of **collagen** in body fluids and the diagnosis of disorders associated with the metabolism of **collagen**)

IT **Collagens, analysis**
RL: ANT (Analyte); ANST (Analytical study)
(estimation of the fragmentation pattern of **collagen** in body fluids and the diagnosis of disorders associated with the metabolism of **collagen**)
IT **Collagens, analysis**
RL: ANT (Analyte); ANST (Analytical study)
(type I, estimation of the fragmentation pattern of **collagen** in body fluids and the diagnosis of disorders associated with the metabolism of **collagen**)

L81 ANSWER 14 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:616314 HCAPLUS
DN 123:161872
ED Entered STN: 16 Jun 1995
TI The detection of the mRNAs of **procollagen types** I, **II** and III in human fetal fingers by in situ hybridization using digoxigenin-labeled oligonucleotide probes
AU Hamada, K.; Okawara, Y.; Fryer, J. N.; Tomonaga, A.; Fukuda, H.
CS Oiso Hospital, Tokai University, Kanagawa, 259-01, Japan
SO Histochemical Journal (**1995**), 27(4), 309-17
CODEN: HISJAE; ISSN: 0018-2214
DT Journal
LA English
CC 3-1 (Biochemical Genetics)
Section cross-reference(s): **9**, 13
AB The mRNAs encoding **procollagen** α1 **type** I, α1 **type II** and α1 **type** III have been localized in paraffin sections of human fetal fingers using digoxigenin-labeled synthetic oligonucleotide probes. The probe-mRNA hybrids were visualized using an anti-digoxin antibody amplified with **sandwich** techniques. These protocols provided an excellent hybridization signal with minimal background noise. The sensitivity of the protocols was nearly equivalent to that seen when using isotopic cDNA probes. In human fetal fingers, intense hybridization signals for **procollagen** α1 type I mRNA were detected in the osteoblasts and the fibroblasts of periosteum and perichondrium, the tenocytes of tendons, fibroblasts of ligaments, the synovial membrane and deeper layers of the dermis. In contrast, pos. hybridization signals for **procollagen** α1 **type II** mRNA were visualized in chondrocytes and the cambial layer of perichondrium. The signals for **procollagen** α1 type III mRNA were detected in the fibroblasts of the dermis and perichondrium. The probes which have lower melting temps. (Tm) could not detect the corresponding mRNAs.
ST mRNA **procollagen** human fetus digoxigenin probe; hybridization digoxigenin oligonucleotide probe
IT Ligament
Synovial membrane
(detection of **procollagen** mRNA; detection of mRNAs of **procollagen types** I, **II** and III in human fetal fingers by in situ hybridization using digoxigenin-labeled oligonucleotide probes)
IT Ribonucleic acids, messenger
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(detection; detection of mRNAs of **procollagen types** I, **II** and III in human fetal fingers by in situ hybridization using digoxigenin-labeled oligonucleotide probes)
IT Nucleic acid hybridization
(in situ, non-isotopic; detection of mRNAs of **procollagen**

types I, **II** and III in human fetal fingers by in situ hybridization using digoxigenin-labeled oligonucleotide probes)

IT Cartilage
(perichondrium, detection of **procollagen** mRNA; detection of mRNAs of **procollagen types** I, **II** and III in human fetal fingers by in situ hybridization using digoxigenin-labeled oligonucleotide probes)

IT Bone
(periosteum, detection of **procollagen** mRNA; detection of mRNAs of **procollagen types** I, **II** and III in human fetal fingers by in situ hybridization using digoxigenin-labeled oligonucleotide probes)

IT **Collagens, biological studies**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(pro-, α1 of **type** I, **II** and III; detection of mRNAs of **procollagen types** I, **II** and III in human fetal fingers by in situ hybridization using digoxigenin-labeled oligonucleotide probes)

IT Tendon
(tenocyte, detection of **procollagen** mRNA; detection of mRNAs of **procollagen types** I, **II** and III in human fetal fingers by in situ hybridization using digoxigenin-labeled oligonucleotide probes)

L81 ANSWER 15 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:541494 HCAPLUS
DN 122:286078
ED Entered STN: 11 May 1995
TI A method of assaying **collagen** fragments in body fluids, a test kit and means for carrying out the method and use of the method to diagnose the presence of disorders associated with the metabolism of **collagen**
IN **Qvist, Per**; Bonde, Martin
PA Osteometer A/S, Den.
SO PCT Int. Appl., 87 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N0033-53
ICS G01N0033-68; C07K0014-78
CC 9-10 (Biochemical Methods)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9508115	A1	19950323	WO 1994-DK348	19940919 <--
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ				
	RW: KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9476521	A1	19950403	AU 1994-76521	19940919 <--
	EP 742902	A1	19961120	EP 1994-926817	19940919 <--
	EP 742902	B1	20011121		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE				
	JP 09509736	T2	19970930	JP 1995-508839	19940919 <--
	JP 3423720	B2	20030707		
	EP 1104887	A2	20010606	EP 2001-101773	19940919 <--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE

	AT 209356	E	20011215	AT 1994-926817	19940919 <--
	JP 2003202338	A2	20030718	JP 2002-264031	19940919 <--
PRAI	DK 1993-1040	A	19930917 <--		
	EP 1994-926817	A3	19940919 <--		
	JP 1995-508839	A3	19940919 <--		
	WO 1994-DK348	W	19940919 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9508115	ICM	G01N0033-53
	ICS	G01N0033-68; C07K0014-78
	IPCI	G01N0033-53 [ICM,6]; G01N0033-68 [ICS,6]; C07K0014-78 [ICS,6]; C07K0014-435 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
	ECLA	C07K014/78; G01N033/68R
AU 9476521	IPCI	G01N0033-53 [ICM,6]; G01N0033-68 [ICS,6]; C07K0014-78 [ICS,6]; C07K0014-435 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
EP 742902	IPCI	G01N0033-53 [ICM,6]; G01N0033-68 [ICS,6]; C07K0014-78 [ICS,6]; C07K0014-435 [ICS,6]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
JP 09509736	IPCI	G01N0033-53 [ICM,7]; C07K0005-083 [ICS,7]; C07K0005-00 [ICS,7]; C07K0007-06 [ICS,7]; C07K0007-00 [ICS,7]; C07K0014-78 [ICS,7]; C07K0014-435 [ICS,7]
EP 1104887	IPCI	G01N0033-68 [ICM,6]; C07K0014-78 [ICS,6]; C07K0014-435 [ICS,6]; C07K0016-18 [ICS,6]
	ECLA	G01N033/68R
AT 209356	IPCI	G01N0033-53 [ICM,7]; G01N0033-68 [ICS,7]; C07K0014-78 [ICS,7]; C07K0014-435 [ICS,7]
	IPCR	C07K0014-435 [I,C]; C07K0014-78 [I,A]; G01N0033-68 [I,A]; G01N0033-68 [I,C]
JP 2003202338	IPCI	G01N0033-53 [ICM,7]; C07K0016-18 [ICS,7]; C12N0005-10 [ICS,7]; G01N0033-531 [ICS,7]; C12N0015-02 [ICS,7]; C12P0021-08 [ICS,7]

AB A method of assaying **collagen** fragments in body fluids(such as urine, blood), including bringing a sample of body fluid in contact with at least one immunol. binding partner for the **collagen** fragments, said binding partner being immunoreactive with synthetic peptides, the sequences of which are essentially derived from **collagen** and containing potential sites for crosslinking. The immunol. binding partners are incorporated, either as whole antibodies or as immunol. active fragments thereof, in an assay for quant. determination of **collagen** fragments in the sample. In addition to being contacted with the immunol. binding pattern(s), the sample may be thought into direct contact with the corresponding peptide. The invention further comprise a test kit and specific means for carrying out the method. The structure of specific peptides is also described.

ST body fluid **collagen** fragment **ELISA**; immunoassay bone **collagen** antibody peptide sequence

IT Animal cell line
Blood analysis
Body fluid
Bone
Synovial fluid
Urine analysis
(a method of assaying **collagen** fragments in body fluids, a

test kit and means for carrying out the method and use of the method to diagnose the presence of disorders associated with the metabolism of **collagen**)

IT **Collagens, biological studies**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(a method of assaying **collagen** fragments in body fluids, a test kit and means for carrying out the method and use of the method to diagnose the presence of disorders associated with the metabolism of **collagen**)

IT Antibodies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); PROC (Process); USES (Uses)
(a method of assaying **collagen** fragments in body fluids, a test kit and means for carrying out the method and use of the method to diagnose the presence of disorders associated with the metabolism of **collagen**)

IT **Immunoassay**
(**enzyme-linked immunosorbent assay**, a method of assaying **collagen** fragments in body fluids, a test kit and means for carrying out the method and use of the method to diagnose the presence of disorders associated with the metabolism of **collagen**)

IT 83462-55-9, Deoxypyridinoline
RL: ANT (Analyte); ANST (Analytical study)
(a method of assaying **collagen** fragments in body fluids, a test kit and means for carrying out the method and use of the method to diagnose the presence of disorders associated with the metabolism of **collagen**)

IT 71227-72-0 146663-75-4 162929-64-8 162929-65-9 162929-66-0
162929-67-1 162929-68-2 162929-69-3 162929-70-6 162929-71-7
162929-72-8 162929-73-9 162929-74-0 162929-75-1 162929-76-2
162929-77-3 162929-78-4
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(a method of assaying **collagen** fragments in body fluids, a test kit and means for carrying out the method and use of the method to diagnose the presence of disorders associated with the metabolism of **collagen**)

L81 ANSWER 16 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:437464 HCAPLUS
DN 122:209095
ED Entered STN: 23 Mar 1995
TI Applications of an enzyme immunoassay for a new marker of bone resorption (CrossLaps): follow-up on hormone replacement therapy and osteoporosis risk assessment
AU Bonde, Martin; **Qvist, Per**; Fledelius, Christian; Riis, Bente Juel; Christiansen, Claus
CS Center for Clinical and Basic Research, Ballerup, DK-2750, Den.
SO Journal of Clinical Endocrinology and Metabolism (**1995**), 80(3), 864-8
CODEN: JCEMAZ; ISSN: 0021-972X
PB Endocrine Society
DT Journal
LA English
CC 9-10 (Biochemical Methods)
Section cross-reference(s): 2, 14
AB An enzyme-linked immunosorbent immunoassay (**ELISA**) for a new

marker of bone resorption (CrossLaps) and evaluated. The **ELISA** procedure dets. degradation products of type I **collagen** in urine. Values obtained in the **ELISA** and in pyridinoline by high pressure liquid chromatog. were correlated after a correction for creatinine. A high correlation was found (r = 0.77). A group of postmenopausal women showed an increase of more than 70% compared to values in premenopausal women. Hydroxyproline was increased by 23%, osteocalcin by 52%, pyridinoline by 31%, and deoxypyridinoline by 50%. A highly significant decrease (60.7%) in the CrossLaps values was seen after 12 mo in samples from patients receiving hormone replacement therapy compared to a placebo group. The spontaneous bone loss in an untreated group of women was determined by repeated forearm bone mass measurement over 24 mo. Baseline values obtained in the CrossLaps **ELISA** were correlated to the rate of loss, yielding a highly significant r value of -0.61, indicating that CrossLaps might be a useful parameter for assessment of the risk of osteoporosis in postmenopausal women.

ST enzyme immunoassay marker bone resorption; hormone replacement therapy osteoporosis risk

IT Bone
Osteoporosis
Urine analysis
(applications of enzyme immunoassay for a new marker of bone resorption (CrossLaps): follow-up on hormone replacement therapy and osteoporosis risk assessment)

IT Hormones
RL: ANT (Analyte); ANST (Analytical study)
(applications of enzyme immunoassay for a new marker of bone resorption (CrossLaps): follow-up on hormone replacement therapy and osteoporosis risk assessment)

IT Biological transport
(resorption; applications of enzyme immunoassay for a new marker of bone resorption (CrossLaps): follow-up on hormone replacement therapy and osteoporosis risk assessment)

IT **Collagens, analysis**
RL: ANT (Analyte); ANST (Analytical study)
(type I, degradation products; applications of enzyme immunoassay for a new marker of bone resorption (CrossLaps): follow-up on hormone replacement therapy and osteoporosis risk assessment)

L81 ANSWER 17 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN **1995:257916** HCAPLUS
DN 122:27271
ED Entered STN: 22 Dec 1994
TI **Sandwich** immunoassay for **collagen**
IN Amano, Satoshi; Masuda, Yoshiko; Ito, Shigeki; Fujio, Mieko
PA Shiseido Co., Ltd., Japan; Nippon Shoji KK
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G01N0033-53
ICS G01N0033-577
ICA A61B0010-00
CC **9-10** (**Biochemical Methods**)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06242109	A2	19940902	JP 1991-80891	19910318 <--
PRAI	JP 1991-80891		19910318 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 06242109	ICM	G01N0033-53
	ICS	G01N0033-577
	ICA	A61B0010-00
	IPCI	G01N0033-53 [ICM,5]; G01N0033-577 [ICS,5]; A61B0010-00 [ICA,5]

AB Disclosed is a method comprising a pretreatment procedure of sample at 39-60° and **sandwich** immunoassay with solid phase-immobilized and labeled monoclonal antibodies. The sensitivity of the immunoassay is largely increased and is used for determination of **collagen**, especially human **collagen** IV in blood serum, and for diagnosis of liver diseases, liver cancer, cirrhosis, etc.

ST **sandwich** immunoassay **collagen** liver disease

IT Blood analysis
Cirrhosis
Liver, disease
Liver, neoplasm
(sample pretreatment at 39-60° and **sandwich** immunoassay for **collagen** determination in blood serum and for diagnosis of liver diseases)

IT **Collagens, analysis**
RL: ANT (Analyte); ANST (Analytical study)
(sample pretreatment at 39-60° and **sandwich** immunoassay for **collagen** determination in blood serum and for diagnosis of liver diseases)

IT Antibodies
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(monoclonal, immobilized and labeled; sample pretreatment at 39-60° and **sandwich** immunoassay for **collagen** determination in blood serum and for diagnosis of liver diseases)

IT **Collagens, analysis**
RL: ANT (Analyte); ANST (Analytical study)
(type IV, sample pretreatment at 39-60° and **sandwich** immunoassay for **collagen** determination in blood serum and for diagnosis of liver diseases)

L81 ANSWER 18 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1994:696476 HCAPLUS
DN 121:296476
ED Entered STN: 24 Dec 1994
TI Immunoassay for quantifying type I **collagen** degradation products in urine evaluated
AU Bonde, Martin; **Qvist, Per**; Fledelius, Christian; Riis, Bente Juel; Christiansen, Claus
CS Osteometer A/S, Rodovre, DK-2610, Den.
SO Clinical Chemistry (Washington, D. C.) (**1994**), 40(11, Pt. 1), 2022-5
CODEN: CLCHAU; ISSN: 0009-9147
PB American Association for Clinical Chemistry
DT Journal
LA English
CC 9-10 (Biochemical Methods)
Section cross-reference(s): 13
AB An **ELISA** for measuring type I **collagen** degradation products in urine <3 h was evaluated. The measuring range was 0.5-10.5 mg/L with a detection limit of 0.2 mg/L. Within-run and total CVs were 5.3% and 6.6% resp. Anal. recovery averaged 100%. The mean (± SD) concns. in urine samples from a healthy premenopausal population (n = 102)

were 250 ± 110 mg/mol creatinine (Cr). A group of healthy postmenopausal women (n = 410) gave a mean value of 416 ± 189 mg/mol Cr. Values obtained in the **ELISA** correlated well (r = 0.83) to HPLC values for the established bone resorption marker deoxypyridinoline (n = 214), slightly better than the correlation to hydroxyproline measurements (r = 0.78, n = 421). We conclude that the assay described here presents a useful tool or further elucidating the importance of type I **collagen** degradation products in urine.

ST immunoassay **collagen** degrdn product urine

IT Menopause
Urine analysis
(immunoassay for quantifying type I **collagen** degradation products in urine evaluated)

IT **Immunoassay**
(**enzyme-linked immunosorbent assay**, immunoassay for quantifying type I **collagen** degradation products in urine evaluated)

IT **Collagens, analysis**
RL: ANT (Analyte); ANST (Analytical study)
(type I, degradation products; immunoassay for quantifying type I **collagen** degradation products in urine evaluated)

L81 ANSWER 19 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN **1993:76619** HCAPLUS
DN 118:76619
ED Entered STN: 02 Mar 1993
TI High-reproducibility **sandwich** immunoassay for **collagen** determination in serum
IN Ito, Shigeki; Fujio, Mieko
PA Nippon Shoji Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G01N0033-53
CC **9-10** (**Biochemical Methods**)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 04324357	A2	19921113	JP 1991-94128	19910424 <--
PRAI JP 1991-94128		19910424 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 04324357	ICM	G01N0033-53
	IPCI	G01N0033-53 [ICM,5]

AB In determining **collagen** in a sample by **sandwich** immunoassay (EIA), the **collagen** in the sample in incubated at 39-60° in the presence of anionic surfactants (SDS, Na lauryl benzenesulfonates or lithium laurylsulfate) to improve the anal. sensitivity and reproducibility. Determination of **collagen** in serum for diagnosis of chronic hepatitis and cirrhosis is given as an example. The patients showed elevated serum type IV **collagen** levels.

ST **collagen sandwich** EIA anionic surfactant; heating surfactant EIA **collagen** hepatitis cirrhosis

IT Firing, heat-treating process
(anionic surfactant and, in **collagen** determination by **sandwich** EIA, to improve sensitivity and reproducibility)

IT **Collagens, analysis**
RL: ANST (Analytical study)

(chemical of, in serum, by **sandwich** EIA, anionic surfactants for)
IT Blood analysis
(**collagen** determination in, by **sandwich** EIA, anionic surfactants for)
IT Cirrhosis
(diagnosis of, type IV **collagen** determination in serum for)
IT Surfactants
(anionic, heat-treatment and, in **collagen** determination by **sandwich** EIA, to improve sensitivity and reproducibility)
IT Hepatitis
(chronic, diagnosis of, type IV **collagen** determination in serum for)
IT Immunoassay
(enzyme, **sandwich**, **collagen** determination by, anionic surfactants for)
IT **Collagens, analysis**
RL: ANST (Analytical study)
(type IV, chemical of, in serum, by **sandwich** EIA, anionic surfactants for)
IT 151-21-3, SDS, uses 2044-56-6, Lithium laurylsulfate 25155-30-0, Sodium laurylbenzenesulfonate
RL: USES (Uses)
(in **collagen** determination by **sandwich** EIA, to improve sensitivity and reproducibility)

L81 ANSWER 20 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN **1993:3437** HCAPLUS
DN 118:3437
ED Entered STN: 10 Jan 1993
TI Kit for **collagen** determination
IN Amano, Satoshi; Masuda, Yoshiko; Yoshida, Tsuyoshi; Asamatsu, Chinatsu; Itoh, Shigeki
PA Shiseido Co., Ltd., Japan; Nipponshoji Co., Ltd.
SO PCT Int. Appl., 66 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM G01N0033-577
ICS G01N0033-53; G01N0033-531
CC **9-15** (**Biochemical Methods**)
Section cross-reference(s): 14
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9216846	A1	19921001	WO 1992-JP328	19920318 <--
	W: US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
	JP 04289455	A2	19921014	JP 1991-80892	19910318 <--
	EP 535239	A1	19930407	EP 1992-906928	19920318 <--
	R: DE, FR, GB, IT, NL				
	JP 05209883	A2	19930820	JP 1992-232726	19920806 <--
PRAI	JP 1991-80892	A	19910318 <--		
	JP 1991-237134	A	19910824 <--		
	WO 1992-JP328	W	19920318 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9216846	ICM	G01N0033-577
	ICS	G01N0033-53; G01N0033-531
	IPCI	G01N0033-577 [ICM,5]; G01N0033-53 [ICS,5]; G01N0033-531

[ICS,5]
IPCR G01N0033-68 [I,A]; G01N0033-68 [I,C]
JP 04289455 IPCI G01N0033-53 [ICM,5]; A61B0010-00 [ICS,5]; G01N0033-577 [ICS,5]
EP 535239 IPCI G01N0033-577 [ICM,5]; G01N0033-53 [ICS,5]; G01N0033-531 [ICS,5]
IPCR G01N0033-68 [I,A]; G01N0033-68 [I,C]
JP 05209883 IPCI G01N0033-531 [ICM,5]; G01N0033-53 [ICS,5]; G01N0033-577 [ICS,5]

AB Chaotropic agents, heparins, chelating agents, gelatins, or albumins are used to enhance the sensitivity of enzymic immunoanal. (EIA) for **collagen** in serum sample. Monoclonal antibody to **collagen** IV was raised and used in **sandwich**-type immunoassay (in the presence of gelatin, sodium heparin, EDTA, and sodium thiocyanate) for diagnosis of chronic hepatitis and hepatocirrhosis.

ST **collagen** detn monoclonal antibody

IT Blood analysis
(**collagen** determination in, enhancer for EIA for)

IT Chelating agents
Gelatins, uses
RL: USES (Uses)
(immunoassay of **collagen** with)

IT **Collagens, analysis**
RL: ANST (Analytical study)
(immunoassay of, enhancer for)

IT Fibronectins
Laminins
RL: ANST (Analytical study)
(monoclonal antibody to, in EIA, for **collagen** determination)

IT Denaturants
(chaotropic, immunoassay of **collagen** with)

IT Albumins, compounds
RL: ANST (Analytical study)
(compds., immunoassay of **collagen** with)

IT Antibodies
RL: ANST (Analytical study)
(monoclonal, to **collagen**, in immunoassay)

IT **Collagens, analysis**
RL: ANST (Analytical study)
(type I, immunoassay of)

IT **Collagens, analysis**
RL: ANST (Analytical study)
(type III, monoclonal antibody to, in EIA, for **collagen** determination)

IT **Collagens, analysis**
RL: ANST (Analytical study)
(type IV, monoclonal antibody to, in EIA, for **collagen** determination)

IT **Collagens, analysis**
RL: ANST (Analytical study)
(type V, monoclonal antibody to, in EIA, for **collagen** determination)

IT 54-21-7, Sodium salicylate 76-03-9, Trichloroacetic acid, biological studies 4264-83-9 7681-11-0, Potassium iodide, biological studies 9005-49-6, Heparin, biological studies
RL: ANST (Analytical study)
(**collagen** determination with)

IT 9041-08-1, Sodium heparin 12678-07-8, Chondroitin sulfate C sodium salt 37319-17-8, Pentosan polysulfate sodium 39422-86-1, Dextran sulfate potassium salt 39455-18-0, Chondroitin sulfate A sodium salt 60-00-4, EDTA, biological studies 67-42-5, EGTA 7447-40-7, Potassium chloride, biological studies 7601-89-0, Sodium perchlorate 7631-99-4, Sodium

nitrate, biological studies 7758-02-3, Potassium bromide, biological studies
RL: ANST (Analytical study)
(immunoassay of **collagen** with)

L81 ANSWER 21 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1991:629046 HCAPLUS
DN 115:229046
ED Entered STN: 29 Nov 1991
TI Studies on secretion of surfactant protein A(SP-A) and D(SP-D) from alveolar **type II** cells
AU Miyamura, Kazuo; Ogasawara, Yoshinori; Kuroki, Yoshio
CS Dep. Intern. Med., Sapporo Med. Coll., Sapporo, Japan
SO Sapporo Igaku Zasshi (**1991**), 60(2), 183-96
CODEN: SIZSAR; ISSN: 0036-472X
DT Journal
LA Japanese
CC 13-2 (Mammalian Biochemistry)
Section cross-reference(s): **9**
AB Secretion of SP-A and SP-D from isolated alveolar **type II** cells and their subcellular distribution were studied. To study secretion of SP-A in culture, a sensitive microassay for rat SP-A was developed, the secretion of SP-A and SP-D, both of which are characterized by **collagen**-like sequences and carbohydrate binding property, by primary cultures of rat alveolar **type II** cells was examined A sensitive **sandwich ELISA** was established using anti-rat SP-A Fab'-HRP conjugates. The assay system was capable of detecting SP-A as low as 0.1 ng/mL. Freshly isolated **type II** cells contained 21.91 ng SP-A/μg DNA and 5.05 ng SP-D/μg DNA. When **type II** cells were cultivated at 37° for 20 h, the intracellular content of SP-D decreased by .apprx.52.7%, whereas SP-A content increased 26.5%. During the cultivation of **type II** cells at 4° for 20 h, .apprx.3.05 ng SP-A/μg DNA and 0.33 ng SP-D/μg DNA, corresponding to .apprx.40% and 5% of the 37° secretion, resp., appeared to be secreted into the media. Secretions of SP-A, SP-D, and phospholipids were stimulated by TPA (10-7 M) and inhibited by ConA (10 μg/mL). The secretions of SP-A and SP-D stimulated with TPA were .apprx.160% compared with basal secretion, although phosphatidylcholine secretion was stimulated by .apprx.1300% by day 1 **type II** cells. Two hydrophilic surfactant proteins and disatd. phosphatidylcholine appeared to distribute in fractions with different densities obtained by discontinuous sucrose d. gradient centrifugation of **type II** cell homogenates. Thus, the metabolism and secretion of SP-A and SP-D appear to be regulated independently in **type II** cells, and SP-A and SP-D may be secreted through other pathways besides lamellar bodies.
ST surfactant protein secretion lung alveolus; **ELISA** surfactant protein
IT Phosphatidylcholines, biological studies
Phospholipids, biological studies
RL: BIOL (Biological study)
(secretion of, by lung **type II** cells, surfactant protein secretion in relation to)
IT Immunochemical analysis
(enzyme-linked immunosorbent assay, of surfactant proteins)
IT Lung, metabolism
(great alveolar cell, surfactant protein secretion by)
IT Proteins, specific or class
RL: BIOL (Biological study)

(hydrophilic, surfactant, secretion of, by lung **type II** cells)

IT Sialoglycoproteins
RL: PROC (Process)
(pulmonary surfactant-associated, SP-A (surfactant protein A), secretion of, by lung **type II** cells)

IT Glycoproteins, specific or class
RL: PROC (Process)
(pulmonary surfactant-associated, SP-D (surfactant protein D), secretion of, by lung **type II** cells)

IT 11028-71-0, Concanavalin A 16561-29-8, TPA
RL: BIOL (Biological study)
(surfactant protein secretion by lung **type II** cells in response to)

L81 ANSWER 22 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN **1991:99419** HCAPLUS
DN 114:99419
ED Entered STN: 23 Mar 1991
TI Serum level of vascular basement membrane associated **collagen** by the **sandwich ELISA** with monoclonal antibodies and its clinical significance in various diseases
AU Tomura, Shigeo; Yoshida, Tsuyoshi; Shiba, Kiyoko; Kino, Jun; Cho, Hiroko; Asamatsu, Chinatsu; Nakajima, Keisuke; Miyake, Kazuhiko; Hayashi, Toshihiko
CS Dep. Intern. Med., Nakano Gen. Hosp., Tokyo, 164, Japan
SO Rinsho Byori (**1990**), 38(11), 1279-85
CODEN: RBYOAI; ISSN: 0047-1860
DT Journal
LA Japanese
CC 14-15 (Mammalian Pathological Biochemistry)
AB A **sandwich ELISA** system for detecting vascular basement membrane associated **collagen** (BAC) was developed. Serum levels of BAC were determined in patients with liver diseases (N = 53), various cancers (N = 65) and other diseases (399). Serum levels of **procollagen** type III (PIIIP) amino propeptide, type IV **collagen** 7s domain (7s domain) and other parameters (TP, ALB, GOT, BPT, CHE, γ-GTP, ALP, LDH, CHE, TG, GLU) were also determined in those patients. In the whole patients, serum concns. of BAC showed a weak correlation with GOT, GPT, ALB and CHE but not with γ-GTP and ALP. There was no correlation between BAC and PIIIP or 7s domain. Although selum levels of BAC were elevated in both liver diseases and cancers, the increase in liver diseases was more marked. Markedly increased serum levels of BAC with low levels of CHE were found only in liver cirrhosis and liver cirrhosis plus hepatocellular carcinoma. Increased BAC may reflect caplillarization of the liver sinusoid or remodeling of the vascular basement membrane which is observed in the progression of liver fibrosis. Serum BAC is thought to be a promising new marker, different from PIIIP or 7s domain for diagnosing fibrosis state in the organs, particularly in the liver.
ST vascular basement membrane **collagen** serum detn; disease basement membrane **collagen** detn **ELISA**; monoclonal antibody **collagen** detn disease
IT **Collagens, analysis**
RL: ANST (Analytical study)
(determination of vascular basement membrane associated, of blood serum, by **sandwich ELISA** with monoclonal antibodies, in human diseases)
IT Disease
(serum vascular basement membrane associated **collagen** determination by

sandwich ELISA with monoclonal antibodies in, of humans)

IT Blood analysis
(vascular basement membrane associated **collagen** determination in, by **sandwich ELISA** with monoclonal antibodies, in human diseases)

IT Liver, disease or disorder
(fibrosis, serum vascular basement membrane associated **collagen** as marker for, in humans)

IT Antibodies
RL: BIOL (Biological study)
(monoclonal, for type IV **collagen**, in **sandwich ELISA**, serum vascular basememnt membrane associated **collagen** determination by, in human diseases)

L81 ANSWER 23 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN **1990:175179** HCAPLUS
DN 112:175179
ED Entered STN: 12 May 1990
TI Determination of type IV **collagen** level in serum with monoclonal antibodies and its application to liver diseases
AU Kino, Jun; Yoshida, Tsuyoshi; Asamatsu, Chinatsu; Sato, Yoshihisa; Cho, Hiroko; Shiba, Kiyoko; Tomura, Shigeo; Hayashi, Toshihiko
CS Shiseido Basic Res. Lab., Yokohama, 223, Japan
SO Rinsho Kagaku (Nippon Rinsho Kagakkai) (**1989**), 18(4), 184-90
CODEN: RIKAAN; ISSN: 0370-5633
DT Journal
LA English
CC **9-10** (**Biochemical Methods**)
Section cross-reference(s): 14, 15
AB A **sandwich ELISA** system was developed using 2 monoclonal antibodies (JK-199 and JK-132) against type IV **collagen** . Type IV **collagen** concentration in sera of healthy volunteers was 0 .apprx. 65 ng/mL, but was elevated up to 480 ng/mL in sera of patients with liver cirrhosis. Type IV **collagen** concentration in sera of patients with liver disease showed no correlation with the serum concentration of glutamate oxaloacetate transaminase, glutamate pyruvate transaminase, γ-glutamyl transpeptidase, and type III **procollagen** peptide (PIIIP). Either type IV **collagen** or PIIIP level was increased in sera from all the cases of hepatic carcinoma and/or liver cirrhosis compared to normal cases.
ST type IV **collagen** detn patient **ELISA**; **sandwich ELISA collagen** detn blood patient; monoclonal antibody **ELISA collagen** patient; liver disease type IV **collagen** patient
IT Cirrhosis
Diabetes mellitus
Hepatitis
Liver, neoplasm
(type IV **collagen** determination in serum of, in human, by **sandwich ELISA** using monoclonal antibodies)
IT Blood analysis
(type IV **collagen** determination in, by **sandwich ELISA** using monoclonal antibodies in patients with liver diseases or diabetes mellitus)
IT Antibodies
RL: ANST (Analytical study)
(monoclonal, for type IV **collagen**, in **sandwich ELISA**, in patients with liver diseases or diabetes mellitus)

IT **Collagens, analysis**
RL: ANT (Analyte); ANST (Analytical study)
(type IV, determination of, by **sandwich ELISA** using monoclonal antibodies, in serum of patients with liver diseases or diabetes mellitus)

L81 ANSWER 24 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN **1990:174994** HCAPLUS
DN 112:174994
ED Entered STN: 12 May 1990
TI A nonradioactive assay for type IV **collagen** degradation
AU Wilkinson, Mary J.; Cohen, Robert L.; Shuman, Marc A.
CS Cancer Res. Inst., Univ. California, San Francisco, CA, 94143, USA
SO Analytical Biochemistry (**1990**), 185(2), 294-6
CODEN: ANBCA2; ISSN: 0003-2697
DT Journal
LA English
CC **9-2** (**Biochemical Methods**)
Section cross-reference(s): 7
AB A sensitive assay for type IV **collagen** degradation using an avidin-biotin **sandwich** technique is described. Biotinylated type IV **collagen** is allowed to bind to an avidin-coated microtiter plate. The solution to be assayed is incubated with the biotinylated **collagen** bound to the avidin plate. **Collagen** degraded by the solution is released into the supernatant and transferred to a second plate coated with avidin. By addition of biotinylated horseradish peroxidase to this second plate, the amount of **collagen** degraded is determined This assay requires only 0.5 μg of type IV **collagen** per microtiter plate and detects nanogram quantities of bacterial collagenase activity.
ST type IV **collagen** degrdn detn; collagenase detn avidin biotin
IT Bacteria
(collagenase of, determination of, avidin-biotin **sandwich** technique for)
IT Avidins
RL: ANST (Analytical study)
(in type IV **collagen** degradation by **sandwich** technique)
IT **Collagens, biological studies**
RL: PRP (Properties)
(type IV, degradation of, avidin-biotin **sandwich** method for determination of)
IT 9001-12-1, Collagenase
RL: ANT (Analyte); ANST (Analytical study)
(determination of, of bacteria, avidin-biotin **sandwich** technique for)
IT 58-85-5, Biotin
RL: ANST (Analytical study)
(in type IV **collagen** degradation by **sandwich** technique)

L81 ANSWER 25 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN **1990:95099** HCAPLUS
DN 112:95099
ED Entered STN: 18 Mar 1990
TI Human type IV **collagen** determination by **sandwich** EIA
IN Obata, Kenichi; Iwata, Kazushi; Oshima, Akira; Inoue, Kyoichi
PA Fuji Chemicals Industrial Co., Ltd., Japan
SO PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM G01N0033-53

ICS G01N0033-577
CC **9-10 (Biochemical Methods)**
Section cross-reference(s): 15
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8907761	A1	19890824	WO 1989-JP161	19890217 <--
	W: US				
	RW: DE, FR, GB, IT				
	JP 02001553	A2	19900105	JP 1989-36111	19890217 <--
	JP 06077017	B4	19940928		
	EP 401370	A1	19901212	EP 1989-902540	19890217 <--
	EP 401370	B1	19950524		
	R: DE, FR, GB, IT				
	JP 07072148	A2	19950317	JP 1993-252053	19930902 <--
PRAI	JP 1988-35099	A	19880219 <--		
	WO 1989-JP161	W	19890217 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 8907761	ICM	G01N0033-53
	ICS	G01N0033-577
	IPCI	G01N0033-53 [ICM,4]; G01N0033-577 [ICS,4]
	IPCR	C07K0016-18 [I,A]; C07K0016-18 [I,C]
JP 02001553	IPCI	G01N0033-53 [ICM,5]; C12P0021-08 [ICS,5]; G01N0033-577 [ICS,5]; A61K0039-395 [ICA,5]
EP 401370	IPCI	G01N0033-53 [ICM,5]; G01N0033-577 [ICS,5]
	IPCR	C07K0016-18 [I,A]; C07K0016-18 [I,C]
	ECLA	C07K016/18
JP 07072148	IPCI	G01N0033-53 [ICM,6]; G01N0033-543 [ICS,6]; G01N0033-577 [ICS,6]

AB **Sandwich** EIA of the central triple helix moiety of human type IV **collagen** or that of human type IV **collagen** 7-S domain uses a monoclonal antibody capable of crossreacting with a specific moiety of the human type IV **collagen**. Thus, serum from chronic, inactive hepatitis patients was placed in a sensitized plate and incubated with peroxidase-labeled monoclonal antibody Fab' fragment from clone number 1D3. Enzyme activity was measured for **collagen** determination Preparation of the monoclonal antibody is described.
ST type IV **collagen sandwich** EIA; serum type IV **collagen ELISA** hepatitis; monoclonal antibody type IV **collagen** immunoassay
IT Cirrhosis
Liver, neoplasm
Stomach, neoplasm
(diagnosis of, type IV **collagen** determination in serum by **sandwich** EIA for)
IT Blood analysis
(human type IV **collagen** determination in, by **sandwich** EIA, monoclonal antibody for)
IT Diagnosis
(of liver cancer and other diseases, type IV **collagen** determination in serum by **sandwich** EIA for)
IT Hepatitis
(chronic active, diagnosis of, type IV **collagen** determination in serum by **sandwich** EIA for)
IT Hepatitis
(chronic persisting, diagnosis of, type IV **collagen** determination in serum by **sandwich** EIA for)
IT Antibodies

RL: ANST (Analytical study)
(monoclonal, to human type IV **collagen**, for **sandwich** EIA)

IT **Collagens, analysis**
RL: ANST (Analytical study)
(type IV, determination of human, in serum, by **sandwich** EIA, monoclonal antibody for)

L81 ANSWER 26 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN **1989:474234** HCAPLUS
DN 111:74234
ED Entered STN: 03 Sep 1989
TI One step **sandwich** enzyme immunoassay for human type IV **collagen** using monoclonal antibodies
AU Obata, Kenichi; Iwata, Kazushi; Ichida, Takafumi; Inoue, Kyoichi; Matsumoto, Eisaku; Muragaki, Yasuteru; Ooshima, Akira
CS Dep. Biotechnol., Fuji Chem. Ind., Ltd., Takaoka, 933, Japan
SO Clinica Chimica Acta (**1989**), 181(3), 293-303
CODEN: CCATAR; ISSN: 0009-8981
DT Journal
LA English
CC **9-10** (**Biochemical Methods**)
Section cross-reference(s): 14
AB Monoclonal antibodies were used in a one-step **sandwich** EIA for human serum immunoreactive type IV **collagen**. The one-step **sandwich** EIA using either polystyrene microspheres or microplates was characterized by carrying out two immunoreactions simultaneously, type IV **collagen** reacting with both a monoclonal antibody as a solid phase and a horseradish peroxidase-labeled monoclonal antibody (Fab') against human type IV **collagen** as a conjugate. The sensitivity with either polystyrene microspheres microplates was 0.22 ng per tube or 0.04 ng per well for type IV **collagen**, and linearity was obtained at 0.22-40 ng/tube or 0.04-20 ng per well, resp. Both methods gave reproducible quant. anal. of immunoreactive type IV **collagen** levels in the sera of patients with hepatocellular carcinoma and patients with liver cirrhosis, which were higher than the levels in the sera of healthy subjects. Protein immunoblotting shows that the immunoreactive type IV **collagen** trapped in the title EIA system was not the 7-S and NC1 domains of type IV **collagen**.
ST serum type IV **collagen** detn; EIA type IV **collagen**; hepatocellular carcinoma serum **collagen**; liver cirrhosis serum **collagen**
IT Blood analysis
(**collagen** type IV determination in, of human by EIA)
IT Cirrhosis
(**collagen** type IV of human blood serum in)
IT Liver, neoplasm
(hepatoma, **collagen** type IV of human blood serum in)
IT Antibodies
RL: ANST (Analytical study)
(monoclonal, to **collagen** type IV, for EIA)
IT **Collagens, analysis**
RL: ANT (Analyte); ANST (Analytical study)
(type IV, determination of, in human blood serum by EIA)

L81 ANSWER 27 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN **1988:566876** HCAPLUS
DN 109:166876
ED Entered STN: 12 Nov 1988
TI EIA of human **collagen** peptides in blood for clinical diagnosis

IN Oshima, Akira; Iwata, Kazushi; Muragaki, Yasumitsu; Bai, Yasuo; Matsumoto, Eisaku; Miyamoto, Satoshi
PA Fuji Chemicals Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G01N0033-543
ICS G01N0033-577
CC **9-10** (**Biochemical Methods**)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63063971	A2	19880322	JP 1986-206862	19860904 <--
	JP 06038081	B4	19940518		
	CA 1287801	A1	19910820	CA 1987-530844	19870227 <--
	US 5316914	A	19940531	US 1992-831645	19920207 <--
PRAI	JP 1986-206862	A	19860904 <--		
	US 1987-22370	B1	19870305 <--		
	US 1990-488440	B1	19900227 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 63063971	ICM	G01N0033-543
	ICS	G01N0033-577
	IPCI	G01N0033-543 [ICM,4]; G01N0033-577 [ICS,4]
	IPCR	G01N0033-53 [N,A]; G01N0033-53 [N,C]; G01N0033-543 [I,A]; G01N0033-543 [I,C]; G01N0033-577 [I,A]; G01N0033-577 [I,C]
CA 1287801	IPCI	G01N0033-543 [ICM,5]; G01N0033-577 [ICS,5]
US 5316914	IPCI	G01N0033-543 [ICM,5]; G01N0033-576 [ICS,5]; G01N0033-577 [ICS,5]
	IPCR	G01N0033-68 [I,A]; G01N0033-68 [I,C]
	NCL	435/007.940; 436/518.000; 436/548.000

AB A **sandwich** EIA for human type III, IV or VI **collagen** peptide determination uses immobilized monoclonal antibodies or polyclonal antibodies and enzyme-labeled monoclonal antibodies or polyclonal antibodies (at least one of the antibodies is a monoclonal antibody). A serum sample or standard was placed in a monoclonal antibody-sensitized microplate and incubated at room temperature for 1 h, followed by incubation with a rabbit polyclonal antibody and peroxidase-labeled goat antirabbit IgG (2nd antibody) at room temperature for 1 h and enzyme measurement for serum **collagen** peptide determination Blood **collagen** peptide levels in chronic active hepatitis and cirrhosis were markedly elevated.

ST **collagen** peptide detn serum EIA; liver disease diagnosis serum **collagen**

IT Blood analysis
(**collagen** peptide determination in, by EIA)

IT Cirrhosis
(diagnosis of, **collagen** peptide determination in blood serum by EIA for)

IT Peptides, analysis
RL: ANST (Analytical study)
(of **collagen** types III and IV and VI, determination of, in serum, by EIA)

IT Antibodies
RL: ANST (Analytical study)
(to **collagen** peptides III and IV and IV, for EIA)

IT Hepatitis
(chronic active, diagnosis of, **collagen** peptide determination in

blood serum by EIA for)
IT Immunochemical analysis
(enzyme immunoassay, solid-phase, **collagen** peptide determination in blood serum by)
IT Antibodies
RL: ANST (Analytical study)
(monoclonal, to **collagen** peptides III and IV and IV, for EIA)
IT **Collagens, analysis**
RL: ANST (Analytical study)
(type III, peptide of, determination of, in serum, by EIA)
IT **Collagens, analysis**
RL: ANST (Analytical study)
(type IV, peptide of, determination of, in serum, by EIA)
IT **Collagens, analysis**
RL: ANST (Analytical study)
(type VI, peptide of, determination of, in serum, by EIA)

L81 ANSWER 28 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1982:611781 HCAPLUS
DN 97:211781
ED Entered STN: 12 May 1984
TI Quantification of **collagen types** I and **II** in mouse limbs during differentiation in vitro and in vivo
AU Dusemund, B.; Barrach, H. J.
CS Inst. Toxikol. Embryopharmakol., Freien Univ. Berlin, Berlin, 1000, Fed. Rep. Ger.
SO Cult. Tech., Symp. Prenatal Dev., 5th (**1981**), 161-9. Editor(s): Neubert, Diether; Merker, Hans-Joachim. Publisher: de Gruyter, Berlin, Fed. Rep. Ger.
CODEN: 48RRA8
DT Conference
LA English
CC **9-2** (**Biochemical Methods**)
AB **Collagens** I and II were determined in developing mouse limbs in vitro and in vivo by a double-**sandwich ELISA** with peroxidase-conjugated antirabbit IgG. To determine the degree of **collagen** extraction from limb buds, the hydroxyproline contents of the total homogenates and the appropriate supernatants were compared, and the DNA concns. in the limbs were used as an indication of limb development. The method is sensitive, specific, and precise, and has the advantage of easy handling.
ST limb **collagen** detn differentiation; **ELISA** **collagen** limb differentiation; enzyme immunoassay **collagen** ; development limb **collagen**
IT Development, mammalian
(**collagens** of limbs in)
IT Immunochemical analysis
(enzyme-linked immunosorbent assay, for **collagens**)
IT **Collagens, analysis**
RL: ANT (Analyte); ANST (Analytical study)
(type I, determination of, in differentiating limbs by **ELISA**)
IT **Collagens, analysis**
RL: ANT (Analyte); ANST (Analytical study)
(**type II**, determination of, in differentiating limbs by **ELISA**)
IT 51-35-4
RL: ANT (Analyte); ANST (Analytical study)
(determination of, in differentiating limbs, **collagens** determination in relation to)

L81 ANSWER 29 OF 29 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1982:435489 HCAPLUS
DN 97:35489
ED Entered STN: 12 May 1984
TI Double-antibody enzyme-linked immunosorbent microassay for quantification of **collagen types** I and **II**
AU Dusemund, Birgit; Barrach, Hans Juergen
CS Inst. Toxikol. Embryonalpharmakol., Freie Univ. Berlin, Berlin, D-1000, Fed. Rep. Ger.
SO Journal of Immunological Methods (**1982**), 50(3), 255-68
CODEN: JIMMBG; ISSN: 0022-1759
DT Journal
LA English
CC **9-2** (**Biochemical Methods**)
AB **Collagen types** I and **II** were quantitated by **sandwich** enzyme-linked immunosorbent assay (**ELISA**) and double-**sandwich ELISA**. Specific **anticollagen** antibodies were linked to polystyrene microplates, and the **collagen** to be measured bound to the coating antibodies. **Collagen** type-specific 2nd antibodies reacted with the immobilized antigen. The 2nd antibodies were either labeled with peroxidase or were detected by using anti-IgG antibodies conjugated with peroxidase. Bound peroxidase was estimated by the color reaction produced with the substrate 5-aminosalicylic acid. Optimization of the test procedure was achieved by varying the conditions for coating, antigen, and 2nd-antibody incubations. The detection limit with both methods was 0.033 μg/mL, and the intra-assay relative standard deviations ranged 2.87-3.26 and 2.61-3.45% for the **sandwich** and double-**sandwich ELISA**, resp., for **collagen** type I. Similar results for precision, sensitivity, and specificity were obtained with both **sandwich** and double-**sandwich ELISA**. Both methods were more sensitive than inhibition **ELISA** and hydroxyproline determination
ST skin **collagen** detn; chondrosarcoma **collagen** detn; enzyme linked immunosorbent assay **collagen**
IT Skin, composition
(**collagen** determination in, by double-antibody enzyme-linked immunosorbent assay)
IT Sarcoma
(chondro-, **collagen** determination in, by double-antibody enzyme-linked immunosorbent assay)
IT Immunochemical analysis
(enzyme-linked immunosorbent assay, for **collagen** types)
IT **Collagens, analysis**
RL: ANT (Analyte); ANST (Analytical study)
(type I, determination of, by double-antibody enzyme-linked immunosorbent assay)
IT **Collagens, analysis**
RL: ANT (Analyte); ANST (Analytical study)
(**type II**, determination of, by double-antibody enzyme-linked immunosorbent assay)

=> d his

(FILE 'HOME' ENTERED AT 14:33:38 ON 11 MAY 2006)
SET COST OFF

FILE 'MEDLINE' ENTERED AT 14:33:52 ON 11 MAY 2006
E COLLAGEN/CT
E E109+ALL

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L1          1017 S E17/CT,CN
                 E E15+ALL
L2         67536 S E15+NT
L3        127133 S ?COLLAGEN?
L4         81362 S L1-L3 AND PY<=1997
L5           157 S L4 AND SANDWICH
                 E SANDWICH/CT
                 E ELISA/CT
                 E E3+ALL
                 E E2+ALL
L6            30 S E67 AND L5
L7            32 S ELISA AND L5
L8            43 S L6,L7
L9             1 S L8 AND 91011314/AN
L10          114 S L5 NOT L8
                 SEL AN 5 59 77 79 93 L10
L11            5 S E1-E5 AND L10
L12            6 S L9,L11
L13           18 S L4 AND SANDWICH? NOT L5-L12
L14            6 S L12 AND L1-L13
                 E QVIST/AU
L15           51 S E29-E31
                 E ROSENQUIST/AU
L16           49 S E14,E15,E18
                 E CHRISTGAU/AU
L17           55 S E5,E6
L18           47 S L1-L3 AND L15-L17
L19            1 S L18 AND SANDWICH?
L20           16 S L18 AND ELISA
                 E ELISA+ALL/CT
L21           19 S L18 AND E2+NT
L22           22 S L19-L21
L23            7 S L22 AND PY<=1997
                 E CROSSLAP
L24          193 S CROSSLAP?
L25           36 S L24 AND PY<=1997
L26           13 S L14,L23
L27            4 S L25 AND L26
L28           32 S L25 NOT L27
L29           13 S L26,L27 AND L1-L28

     FILE 'MEDLINE' ENTERED AT 15:01:50 ON 11 MAY 2006

     FILE 'WPIX' ENTERED AT 15:02:19 ON 11 MAY 2006
L30        16201 S ?COLLAGEN?
                 E COLLAGEN/CN
L31            9 S E3-E5,E7-E12,E14-E18,E20-E24
                 SEL SDCN
                 EDIT E1-E9 /SDCN /DCN
L32         2601 S E1-E9
                 SEL L31 DCSE
                 EDIT E10-E18 /DCSE /DCRE
L33         2328 S E10-E18
L34        16348 S L30,L32,L33
                 E A61K031-39/IC,ICM,ICS
                 E A61K038-39/IC,ICM,ICS
L35          573 S E3-E10
                 E A61K038-39/ICA,ICI
L36           16 S E3,E4
                 E A61K038:39/ICI
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L37           6 S E3
L38         572 S A61K038-39/IPC
                E C07K014-78/IC,ICM,ICS
L39         745 S E3-E5
                E C07K014-78/ICA,ICI
L40          41 S E3,E4
                E C07K014:78/ICI
L41           3 S E3
                E C07K014-78/IPC
L42         783 S C07K014-78/IPC
L43       16925 S L34-L42
L44          87 S L43 AND SANDWICH?
L45         189 S L43 AND ELISA
L46         111 S L43 AND ENZYM?(S)LINK?(S)IMMUNOSOR?(S)ASSAY?
L47          13 S L44 AND L45,L46
                SEL AN 8 12 L47
L48           2 S E1-E2 AND L47
L49          74 S L44 NOT L47
                SEL AN 53 63
L50           2 S E3-E4 AND L49
L51           4 S L48,L50 AND L30-L50

     FILE 'WPIX' ENTERED AT 15:21:25 ON 11 MAY 2006

     FILE 'BIOSIS' ENTERED AT 15:21:36 ON 11 MAY 2006
                E ROSENQUIST/AU
L52          46 S E13-E17
                E QVIST P/AU
L53          73 S E3-E5
                E CHRISTGAU S/AU
L54          74 S E3-E5
L55          68 S L52-L54 AND ?COLLAGEN?
L56           8 S L55 AND PY<=1997

     FILE 'HCAPLUS' ENTERED AT 15:22:46 ON 11 MAY 2006
                E COLLAGEN/CT
L57        2136 S E21-E29
                E E3+ALL
L58        5398 S E1
                E E2+ALL
L59       57099 S E3
L60         493 S E59-E62
L61       62792 S L57-L60
L62       94814 S COLLAGEN OR ?COLLAGEN OR ?COLLAGENS
L63       56645 S L61,L62 AND (PY<=1997 OR PRY<=1997 OR AY<=1997)
L64         121 S L63 AND SANDWICH?
L65          45 S L64 AND (BIOCHEM?(L)METHOD?)/SC,SX
L66           8 S L65 AND TYPE()(II OR 2)
L67           8 S L65 AND TYPE(S)II
L68           8 S L66,L67
L69          37 S L65 NOT L68
                E ELISA/CT
                E E4+ALL
L70       13817 S E2
L71          50 S L63 AND L70
L72         532 S L63 AND ELISA
L73          32 S L64 AND L71,L72
L74          27 S L73 NOT L68
L75          56 S L69,L74
                SEL AN L75 3 4 25 36 37 46-50 53
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L76          11 S L75 AND E1-E22
L77          19 S L68,L76 AND L57-L76
L78          50 S L61,L62 AND (ROSENQUIST C? OR QVIST P? OR CHRISTGAU S?)/AU
L79          13 S L78 AND L63
L80          12 S L79 NOT 1996:412711/AN
L81          29 S L77,L80 AND L57-L80

     FILE 'HCAPLUS' ENTERED AT 15:31:54 ON 11 MAY 2006

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